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CLINICAL MANIFESTATIONS OF EPIDEMIC HEMORRHAGIC FEVER

Col. George M. Powell (MC), U. S. Army

During the months of October, November, and December, 1951, 314 patients with epidemic hemorrhagic fever were cared for at Osaka Army Hospital. About one-sixth were admitted in the first 4 days of their illness and two-thirds in the 5th to the 10th day; the remaining one-sixth had been sick for at least 10 days prior to admission. This large group provided an unparalleled opportunity for collection of a large amount of clinical data on a disease that heretofore had not been encountered by American physicians. My associates and I enthusiastically entered on a detailed comprehensive study of the clinical and laboratory manifestations of this new entity. A master chart, which provided a daily record of these manifestations from beginning to termination of the illness, was prepared for each patient. These records were supplemented by many colored and black and white photographs to record pictorially, also, various aspects of this disease. Since many of these patients were still in the hospital at the time of writing, the entire study had not been completed; however, data on 55 patients has been analyzed, and the results are presented as a preliminary report.

This disease is complicated and dramatic in its manifestations. Almost every system in the body is involved in some manner or other. Evidence of disturbances of the central nervous system, gastrointestinal tract, and kidneys, with an associated hemorrhagic diathesis, are concomitantly present in most patients. The respiratory and cardiovascular systems and some of the endocrine glands also commonly show pathological changes. The combination of serious alterations in the function of these important systems offers a challenge in management seldom encountered. The vast majority of cases follow a characteristic clinical pattern, in which the disease is divided into fairly well defined phases, and it is felt that any clinical description must recognize these periods. It appears preferable to divide the disease into three stages. The first is best referred to as the invasion stage, the second, the toxic stage, and the third, the convalescent stage.

INVASION STAGE

The incubation period may be as long as 29 days. The invasion stage is relatively short, lasting from two to five days, and ends with the appearance of toxic manifestations of the disease. The onset is abrupt, with chilliness or a frank chill followed by a high fever; the temperature usually reaches 102 to 103 F on the first day. The fever remains elevated, often rising to 104 to 106 F on the third or fourth day. The temperature usually falls rapidly to subnormal levels on the third to the sixth day of illness. Severe headaches, frontal or supraorbital in location, bilateral lumbar pain, and generalized muscular aches are present from the onset. The headaches and muscular symptoms disappear with the drop in temperature, but the backache continues and becomes more intense later. Eye symptoms, consisting of ocular pain, pain on movement of the eyes, photophobia, and blurred vision, often described as a "film over the eyes," appear to be commoner in this condition than in most other febrile illnesses. These last throughout the period of fever and into the first few days of the next stage. Pain on eye movements and blurred vision are usually the last of this group to disappear. A few patients vomit and have some abdominal pain from the beginning, but these become much commoner and severer after a few days. Some patients complain of sore throat, a nonproductive cough, or diarrhea; however, all of these are usually mild and of short duration.

Physical examination reveals an acutely ill patient with a high fever, who is restless and at times prostrated. Often there is a distinct flush to the face and neck, which is sharply limited to this area and which may be described as a "sunburned" appearance. This flush becomes more prominent about the third day and lasts well into the toxic stage. A relative bradycardia with a dicrotic pulse often occurs. The pulse rate is seldom above 100 even with temperatures of 104 to 106 F. The systolic and diastolic blood pressures are usually normal for the first few days, but both commonly drop to near

Chief of the Medical Service, Osaka Army Hospital, Osaka, Japan.
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Capt. Bruce H. Wimer (MC) performed the hematological studies and compiled the data on them presented in this paper. Lieut. Col. Ivan C. Dimmick, Capt. Owen Deneen, Capt. Rudolph M. Jarvi, Capt. Louis J. Polskin, Lieut. Richard A. Bloomfield, Lieut. George A. Brosius, and Lieut. Coleman D. Caplovitz, (MC), cared for the patients and recorded the data given in this report. Dr. Joseph M. Hayman gave suggestions and Col. Charles L. Leedham (MC) gave guidance in this study.

shock and at times to shock levels concurrently with defervescence. The conjunctivas and pharynx are injected or suffused with a dusky red appearance. The lungs are normal to percussion and auscultation. The heart is normal in size, rate, and rhythm, and there are no murmurs. Generalized or, less commonly, localized abdominal as well as costovertebral angle tenderness are common, but both become much severer later. The axillary, cervical, and inguinal lymph nodes are often moderately enlarged and nontender. The spleen is palpable only occasionally. Neurological abnormalities are consistently absent.

TOXIC STAGE

The toxic stage starts about the 4th or 5th day, usually coinciding with the fall in temperature, and lasts until the 10th to the 14th day. This is the stage of complications and mortality. Instead of subjectively improving when the fever disappears, patients feel distinctly worse and often voice their sense of despair by making appropriate remarks to that effect. Prostration becomes severer, and restlessness reaches the extreme. Headache, generalized muscle pains, and eye symptoms tend to decrease. The cough may become slightly productive, with mild to moderate hemoptysis starting about the fourth day. Gross hemorrhage from the lungs occurs infrequently. Abdominal pain increases in severity; it is usually generalized but may be localized, particularly in the hypogastric areas. Protracted vomiting is almost always present and lasts for as long as 10 days. An intense thirst often develops, but drinking of fluids only increases vomiting. Hematemesis as well as melena occurs at times and begins about the fourth day. The amount varies with the tendency to bleed. Many patients have persistent hiccups, which adds to their discomfort and waning strength. Constipation is almost constant. Bilateral lumbar backache becomes greatly intensified, and the patient is unable to obtain comfort in any position because of this severe pain. Renal failure, resulting in oliguria or complete anuria, occurs in most patients, usually between the fourth and ninth days.

Physical examination usually shows the patient to be more seriously ill than in the early phase. Disorientation, delirium, coma, and convulsive seizures develop in the critically ill patients. Early in this stage, a drop in the systolic blood pressure to 80 to 90 mm. Hg is common. Complete shock may develop, and death sometimes occurs despite efforts made to correct this state. Hemorrhagic manifestations begin to make their appearance about the fourth to sixth day of illness. Petechiae are seen in the palpebral conjunctivas, and varying amounts of hemorrhage occur episclerally, giving rise to the typical "red eyes" so common in this disease. The soft palate and pharynx are usually covered with petechial hemorrhages. The skin area most frequently involved with petechiae is the axillary region along the sides of the thorax; the areas over the scapulas and the arms are the next commonest locations. Other skin areas are seldom involved, except when they are the sites of needle punctures or when severe bleeding states are present. The Rumpel-Leede test is positive in a majority of patients from about the 4th to the 10th day.

Usually between the fourth and ninth days, but occasionally later, almost all patients have some evidence of uremia, resulting from various degrees of renal insufficiency. The clinical picture is comparable to that produced by lower nephron nephrosis. Most late deaths are due to some manifestation of renal failure, usually uremic coma, pulmonary edema, hyperpotassemia, or convulsive states. In many patients periorbital and conjunctival edema develop. The periorbital edema is usually of mild to moderate degree, but conjunctival edema is often severe, with an elevated scleral conjunctiva surrounding a seemingly depressed pupil. At times, the entire face is moderately edematous.

The lungs are clear except when pulmonary edema, pneumonia, or lung hemorrhage occurs, at which time rales and other signs of these conditions are present. The heart usually shows no abnormalities, except a tachycardia in shock states and at times a sinus bradycardia, which may become marked, with a rate as low as 40 or 50 beats per minute. A few patients show evidence of myocardial failure, with cardiac dilatation, tachycardia, faint heart sounds, and pulmonary congestion of cardiac origin. Several deaths have definitely had a cardiac basis from myocardial failure, hyperpotassemia, and ventricular fibrillation.

Abdominal tenderness is usually severe and generalized, but it may be localized to any area, particularly the lower abdomen. The tenderness may be severe enough to raise the question of an acute condition of the abdomen requiring surgical treatment. Bilateral costovertebral angle tenderness is usually severe, and even light touch often makes the patient wince with pain. The lymph nodes remain palpable during this stage, and the spleen is still occasionally felt. Neurological findings remain normal, except in postconvulsive states, when expected generalized postconvulsive signs occur.

CONVALESCENT STAGE

Convalescence begins about the 10th to the 14th day of illness. Usually, most of the past symptoms disappear abruptly, although a few patients recover more slowly. Residual weakness may be present for several weeks. Early in convalescence, the slightest exertion often produces dyspnea and palpitation, with a feeling of lightheadedness. Some patients complain of hand tremors and an inability to write legibly. All these symptoms appear to subside after two to three weeks. The most persistent symptoms are polyuria and nocturia, with daily urine outputs of 4,000 to 10,000 cc. occurring commonly, and an associated marked polydipsia. These begin immediately after the oliguric period subsides and often continue for as long as two to three months. Rarely do they continue for a longer period.

Physical examination at this time shows the patient to be more alert. Evidence of considerable weight loss becomes apparent. The facial flush and edema are replaced by paleness and thinning of the face. Hemorrhagic phenomena disappear gradually, with episcleral hemorrhage usually the last to clear. Both the systolic and diastolic blood pressures tend to be slightly elevated during early convalescence but usually return to normal later. Occasionally, a transient orthostatic hypotension is present for several weeks. A course tremor of the

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hands often occurs, but this, too, subsides in two to three weeks.

LABORATORY OBSERVATIONS

Urine.—During the first day or two of the disease the urine may be entirely normal. It may show a red blood cell occasionally, but usually albumin and red blood cells do not appear until the third or fourth day. Heavy amounts of albumin usually are present from about the 4th to the 10th day along with red blood cells, which vary in amount with the degree of hemorrhagic diathesis present. A few granular and hyaline casts accompany the albuminuria. Marked oliguria or anuria occurs in most patients usually between the fourth and ninth days. Polyuria follows the oliguric period, and the specific gravity falls below 1.010 and usually remains at levels below normal for six weeks to three months. The urine chlorides are greatly reduced during the toxic stage and increased during early convalescence. Early in convalescence the phenolsulfonphthalein test shows a greatly decreased rate of excretion, but normal rates return just before the kidneys recover concentrating power.

Blood Chemistry.—An abnormal rise in the blood nonprotein nitrogen level almost always occurs. Elevation above 100 mg. per 100 cc. is common, and 200 mg. per 100 cc. is exceeded at times. Most patients reach their maximum rise between the 4th and 12th days. Elevation in the blood creatinine level is in keeping with the rise in nonprotein nitrogen. Values of 5 to 6 mg. per 100 cc. are common. Variations in blood urea nitrogen values also follow those in blood nonprotein nitrogen. Usually, there is a moderate decrease in blood chlorides, but only occasionally does the decrease reach severe proportions. The maximum decrease occurs oftenest between the seventh and ninth days. A moderate decrease in blood carbon dioxide combining power, between 30 and 40 vol. per cent, occurs in about 25% of patients. Infrequently, it falls to between 20 and 30 vol. per cent. Most patients show the maximum decrease between the 4th and 12th days.

Hematological Studies.—Leukocytes: Until about the fourth day, the total and differential white blood cell counts are usually normal, or the total may be slightly decreased. Between the fourth and ninth days almost all patients have a sudden elevation to 20,000 to 40,000, and some have as high as 100,000 per cubic millimeter. Leukocytosis usually lasts for three to seven days. There is a shift to the left, often with a leukemoid reaction. Stab cells, juvenile cells, myelocytes, premyelocytes, and, occasionally, myeloblasts are seen. Eosinophils show no consistent increase, except during convalescence when they vary from 5 to 8%. From the 4th to the 14th day the presence of atypical lymphocytes is almost constant. They constitute from 5 to 25% of the total, and all types of Downey's classification are seen, although type 2 cells predominate. Plasma cells and Turk cells are occasionally present. The number of monocytes is variable but sometimes increased, and some show phagocytosis during the toxic stage.

Erythrocyte Sedimentation Rate: The corrected erythrocyte sedimentation rate is usually normal early in the disease, but almost all patients show a marked increase, commonly reaching rates of 30 to 40 mm. or more per hour (Westergren) from the 10th to the 15th day of illness.

Red Blood Cells, Hemoglobin, and Hematocrit: There is no characteristic change in the red blood cell count, hemoglobin level, or hematocrit. Extensive bleeding is, of course, followed by reduction in each, and periods of shock reveal the changes in hemoconcentration. The appearance of the erythroid elements is not altered, except that occasionally a few normoblasts are seen at the time of the leukemoid reaction.

Bleeding Studies: The platelet count is almost always decreased between the 4th and 10th days. Counts below 100,000 per cubic millimeter are common, and in many patients the count falls to 20,000 or lower. The decrease is often followed by a sharp rebound to levels above normal, accompanied by giant platelet formation. Many patients show considerably prolonged bleeding time, and there usually is good correlation between the abnormal bleeding time and the decrease in the platelet count, especially when the platelet count is falling or remains at a low level. Repeated studies of coagulation times revealed no abnormality. The prothrombin time remains consistently normal throughout the disease. Rumpel-Leede tests show a positive result in many patients during the period bleeding times are prolonged and platelet counts reduced.

Bone Marrow: Aspirated bone marrow is not remarkable. A mild to moderate granulocytic hyperplasia is sometimes seen between the 4th and 10th days. Plasma cells occasionally show a mild increase. Erythroid elements show little change. The megakaryocytes are normal or slightly increased in number.

Agglutinations and Liver Function Tests.—Proteus vulgaris OX19 and OXK and Leptospira agglutination test results are within normal limits. Results of liver function studies, including cephalin-cholesterol flocculation, thymol turbidity, prothrombin determinations, and the van den Bergh test are normal or only slightly altered.

ELECTROCARDIOGRAPHIC AND ROENTGENOGRAPHIC CHANGES

The electrocardiogram shows no consistent changes. Occasionally, during the toxic stage the T waves become inverted, even deeply at times, in all leads and especially the precordial leads. Once present, T wave abnormalities are slow to return to normal. Ordinarily, there is no change in the other waves or in conduction time, except that hyperpotassemic changes often occur with renal failure. Hypopotassemic changes have not been seen. Chest roentgenograms occasionally show some hilar adenopathy. Pulmonary edema, parenchymal hemorrhage, and pneumonia produce characteristic roentgenologic changes.

SUMMARY

A preliminary report on the clinical manifestations of epidemic hemorrhagic fever, a disease new to American physicians, based on an analysis of the first 55 of 314 cases studied, is presented. The disease is usually severe, complicated, and dramatic. It involves almost every system and organ in the body concomitantly, including the central nervous, respiratory, cardiovascular, gastro-

intestinal, urinary, endocrine, and hematopoietic systems, and is associated with a hemorrhagic state.

The clinical manifestations of this disease occur clearly in phases, best described as the invasion, toxic, and convalescent stages. The invasion stage has an abrupt onset and is characterized mainly by manifestations common to other acute febrile illnesses. The toxic stage is the period of serious complications. All deaths occur during this stage. Shock may develop. A hemorrhagic diathesis is frequently seen. Partial or complete renal failure almost always occurs, producing complications similar to those seen in lower nephron nephrosis. Gastrointestinal symptoms, consisting mainly of vomiting, hiccups, and abdominal pain, are usually severe. Heart failure is sometimes seen. Prostration and extreme restlessness are paramount. Delirium, coma, and convulsive seizures are common in the critically ill patients. The convalescent stage usually starts about the end of the second week and lasts for six weeks to three months. The manifestations are, mainly, polyuria, inability to concentrate urine, reduced phenolsulfonphthalein excretion, weakness, and tremors of the hands at times. Complete recovery from these residuals occurs in almost all patients.

ANTIANEMIC PROPERTIES OF REACTION PRODUCTS OF VITAMIN B_{12} AND THE INTRINSIC FACTOR

Tom D. Spies, M.D., Robert E. Stone, M.D., Birmingham, Ala., Ramon M. Suarez, M.D., Santurce, Puerto Rico
Guillermo Garcia-Lopez, M.D., Ruben Lopez-Toca, M.D.
and
Alfredo Reboredo, M.D., Havana, Cuba

Five years of intensive investigation have shown that vitamin B_{12} has a most important place in practical therapeutics and that its popularity is no passing fashion. It already has won a place in the treatment of pernicious anemia in relapse and for the maintenance of persons with pernicious anemia, and all that remains to be settled is the optimum range of dosage and the best method of administration. In the past 25 years of using liver extracts and desiccated stomach preparations, it has been our experience that patients with pernicious anemia vary greatly in their individual requirements. All our experience to date indicates that the same is true of vitamin B_{12}. Through the years evidence has accumulated in the United States, England, and elsewhere, showing that liver extracts and stomach preparations, when properly administered, give splendid results. Experience with vitamin B_{12} is relatively recent; yet it is known to be the most potent nutrient so far discovered and daily parenteral doses of 1 or 2 μg will maintain a patient with pernicious anemia in remission. (In the treatment of other megaloblastic anemias vitamin B_{12} is not as effective in recommended doses as folic acid and is ineffective in the average case of megaloblastic anemia of infancy and of pregnancy.)

Castle and his associates,[1] our group, and many others have shown that beef muscle contains a heat-stable substance, which produces little or no response when ingested by a person with pernicious anemia unless normal gastric juice or substances acting similarly are administered with it. This unknown substance in the gastric juice has no hemopoietic power when given orally alone, and it is termed the intrinsic factor; the substance in food such as beef muscle is termed the extrinsic factor. There is no proof that a direct reaction occurs between the extrinsic factor and the intrinsic factor, but it has been clearly shown by a number of investigators that the intrinsic factor will potentiate the effect of vitamin B_{12} administered orally to persons with pernicious anemia in relapse. In early 1950,[2] some of us (T. D. S., G. G. L., R. L. T., and A. R.) and a coworker reported the response of patients with pernicious anemia in relapse to a reaction product of vitamin B_{12} and the intrinsic factor and stated "these findings suggest that a practical method of oral therapy characterized by the administration of a single capsule or tablet per day is near at hand." Since publication of that report, we have worked intensively and have tested many substances for intrinsic factor activity, including highly potent concentrates from Abbott Laboratories, Armour Laboratories, and Lederle Laboratories.

Many problems confront the practicing physician, and it will help him to know that during the course of our study we saw characteristic patients with pernicious anemia in relapse respond to a small oral dose of only 5 μg of vitamin B_{12} without any intrinsic factor. Many patients respond submaximally following the oral administration of 50 to 100 μg of vitamin B_{12} daily; others with similar blood values fail to respond to as much as

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From the Department of Nutrition and Metabolism, Northwestern University Medical School, Chicago, and Nutrition Clinic, Hillman Hospital, Birmingham, Ala. (Drs. Spies and Stone); Hospital Mimiya, Santurce, Puerto Rico (Drs. Spies, Stone, and Suarez); and General Calixto García Hospital, Havana, Cuba (Drs. Spies, Stone, García-Lopez, Lopez-Toca, and Reboredo).

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2. Spies, T. D., and others: Antianemic Properties of a Reaction Product of Vitamin B_{12} and the Intrinsic Factor, South. M. J. **43**: 206, 1950.

100 μg or more unless they are given also an intrinsic factor concentrate (see figure). Over and over again we have shown that patients with sprue and nutritional macrocytic anemia respond much less to oral vitamin B_{12} therapy than does the average case of pernicious anemia.[3] We have shown also that potent intrinsic factor preparations made by Abbott Laboratories, Armour Laboratories, Lederle Laboratories, and Organon Inc. potentiate the effect of vitamin B_{12} in pernicious anemia, nutritional macrocytic anemia, and tropical sprue but that a much larger dose is required for the average case of nutritional macrocytic anemia and tropical sprue than for the average case of pernicious anemia.

In a recent study of a highly concentrated intrinsic factor preparation we selected eight patients with pernicious anemia, one with nutritional macrocytic anemia, and two with tropical sprue. Each patient was an adult, free from infections and from severe complications. The patients with pernicious anemia had achlorhydria gastrica even after a histamine injection; the patient with nutritional macrocytic anemia and those with tropical sprue had free hydrochloric acid in the gastric content. The patients with tropical sprue had acid steatorrhea and severe weight loss; the patient with nutritional macrocytic anemia had severe watery diarrhea and weight loss. The following laboratory criteria were fulfilled in each case, using methods previously published [4]: macrocytic anemia; a red blood cell count of 2,500,000 or less per cubic millimeter; a color index of 1 or more; and megaloblastic arrest of the sternal bone marrow. Throughout the entire period of study the patients were under rigid control. Their diets were devoid of meat and meat products. Blood determinations and clinical observations were made daily. During a control period of from 10 to 30 days they were each given from 10 to 15 μg of crystalline vitamin B_{12} orally. After we determined that the vitamin B_{12} alone did not produce a hemopoietic response, we then administered tablets of bifacton,* which were sent to us by Dr. Kenneth Thompson of Organon Inc. In no instance was the dose of vitamin B_{12} given in these tablets greater than the patient had received during the control period. That this is a suitable therapeutic product and contains active intrinsic factor as well as vitamin B_{12} is shown by the prompt and striking hemopoietic responses seen in the table. In each patient the clinical response paralleled the hemopoietic response. It is noteworthy that the patient with nutritional macrocytic anemia (case 9) and the two with tropical sprue (cases 10 and 11) did not respond as fully as those with pernicious anemia (cases 1 to 8, inclusive) although they received the same preparation at the same dosage level.

For another study we selected three patients who, from years of previous observation, were known to absorb vitamin B_{12} poorly by mouth even when it was incubated with and given with 150 cc. of normal human gastric juice daily. These patients did not respond either to the Organon concentrates used in the cases listed in the table or to any of the other concentrates available. They did respond nicely to a single intramuscular injection of 10 μg of vitamin B_{12}, thus showing that they were relatively refractory to oral therapy.

In still another study we made a comparative evaluation of the responses of 11 cases of pernicious anemia in relapse in Alabama and 11 cases of tropical sprue in relapse—10 in Puerto Rico and 1 in Cuba. We did this by finding an amount of an intrinsic factor concentrate that, when administered with 10 μg of vitamin B_{12}, would produce a definite but submaximal clinical and hemopoietic response in the cases of pernicious anemia; and we then sent these concentrates to Puerto Rico and Cuba for testing in the patients with tropical sprue in the same amounts and under similar circumstances. None of the cases of tropical sprue had any clinical or hemopoietic response, thus showing that the amount of vitamin B_{12} and intrinsic factor that will produce a definite but submaximal response in the average case of pernicious anemia is inadequate to produce a similar response in the average case of tropical sprue.

In a study designed to test the stability of the bifacton* we selected two patients with typical pernicious anemia in relapse and observed them for two weeks. During this

Antianemic Effect of a Reaction Product of Vitamin B_{12} and Intrinsic Factor in Eleven Patients

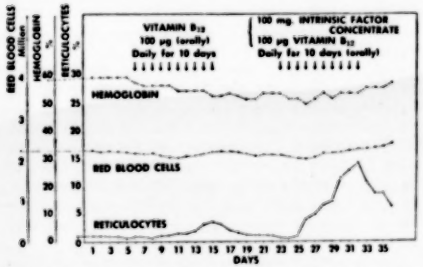
Case *	Age, Years	Red Blood Cells, Millions per Cubic Millimeter: Initial	Red Blood Cells, Millions per Cubic Millimeter: 14 Days After Therapy Started	Hemoglobin, %: Initial	Hemoglobin, %: 14 Days After Therapy Started	Reticuloeytes, %: Initial	Reticuloeytes, %: Day of Peak	Reticuloeytes, %: Percentage at Peak	Number of Days of Therapy
1	30	2.48	2.94	64	79	0.6	9	17.1	10
2	45	2.43	2.81	62	68	0.2	10	18.3	10
3	51	2.21	2.65	57	64	0.2	7	18.9	10
4	64	2.41	2.77	61	68	0.2	9	16.0	10
5	56	2.52	2.86	63	69	0.6	8	15.5	10
6	42	2.45	2.81	60	71	0.8	8	17.1	10
7	64	2.30	2.56	49	55	0.2	8	19.4	10
8	39	2.27	2.51	47	54	0.6	8	18.3	10
9	33	1.91	2.06	45	51	0.2	9	6.4	10
10	62	1.85	2.09	42	49	0.1	8	5.9	10
11	58	2.34	2.66	60	65	0.3	9	7.6	10

* The patients in cases 1 to 8 inclusive had pernicious anemia; in case 9 nutritional macrocytic anemia; and in cases 10 and 11 tropical sprue.

3. Spies, T. D., and others: Vitamin B_{12} by Mouth in Pernicious and Nutritional Macrocytic Anemia and Sprue, Lancet 2:454, 1949. Spies, T. D., and others: A Note on the Oral Versus Parenteral Administration of Vitamin B_{12}, South. M. J. 42:528, 1949. Suárez, R. M.: The Comparative Effect of Vitamin B_{12} Administered Through Different Routes in Tropical Sprue, Internat. Ztschr. Vitaminforsch. 22:308, 1952.

4. Spies, T. D., and others: Observations on the Treatment of Tropical Sprue with Folic Acid, J. Lab. & Clin. Med. 31:227, 1946.

time they did not respond clinically or hemopoietically. Each patient then was given four bifacton* tablets containing an intrinsic factor concentrate and a total of 30 μg of vitamin B_{12}. The tablets were ground and boiled



Potentiating effect of intrinsic factor concentrate on vitamin B_{12} in inducing a blood response in a patient with pernicious anemia.

for 30 minutes. The water in which they were boiled and the remnants of the tablets were administered. Both patients showed satisfactory clinical and hemopoietic responses, indicating that the administration of vitamin B_{12} and intrinsic factor concentrate in this form is effective even after boiling.

CONCLUSIONS

These studies stress that in order to determine the intrinsic factor activity of any preparation, one must first do carefully controlled tests showing that the oral administration of the amount of vitamin B_{12} in the preparation cannot, in itself, produce any effect. Then one must show that the administration of the same amount of vitamin B_{12} and a potent intrinsic factor concentrate is effective. These studies also show that patients who are relatively refractory to the oral administration of vitamin B_{12} likewise are relatively refractory when intrinsic factor is added. Such patients, of course, should have parenteral therapy with potent therapeutic agents. The observations reported here clearly demonstrate that the average patient with pernicious anemia responds better than the average patient with tropical sprue to the administration of vitamin B_{12} and intrinsic factor concentrate. These studies further extend those published by some of our group in 1950 and show that the day of practical oral therapy with vitamin B_{12} is now at hand for those who choose to use it in selected patients with pernicious anemia.

620 S. 20th St. (Dr. Spies).

DUODENAL ULCER TREATED BY SUBTOTAL GASTRECTOMY WITH AND WITHOUT VAGOTOMY

SIX YEAR COMPARATIVE STUDY

Leonard J. Druckerman, M.D., Vernon A. Weinstein, M.D., Percy Klingenstein, M.D.
and
Ralph Colp, M.D., New York

Subtotal gastrectomy has been widely accepted as the best operation for chronic duodenal ulcer, even though recurrent peptic ulceration is reported in about 3 to 8% of patients so treated. Beginning in 1946, an effort was made to decrease the incidence of gastrojejunal ulceration by combining bilateral infradiaphragmatic vagotomy with gastric resection. This combined operation was tolerated well, and it was therefore decided to continue its use in some patients while gastrectomy alone was performed in others. Thus, the two procedures performed on similar groups of patients could be compared and evaluated.

The rationale of the combined procedure is obvious. Gastrectomy alone eliminates the hormonal phase of gastric secretion, reduces the amount of functioning gastric mucosa, and permits neutralization of acid secretion by reflux of the alkaline biliary and pancreatic secretions. Vagotomy eliminates the cephalic phase of gastric secretion and thus further reduces gastric acidity. Presumably, the combination of both procedures should produce a higher incidence of achlorhydria. In the presence of achlorhydria, gastrojejunal ulceration is almost unknown. This report deals with 385 consecutive patients with duodenal ulcers treated by subtotal gastrectomy or by subtotal gastrectomy and simultaneous complementary infradiaphragmatic vagotomy on the ward and private services of one of us (R. C.) during the years 1946 through 1951. In group 1 were 220 patients (57%) subjected to gastrectomy and in group 2 were 165 (43%) subjected to the combined operation. Approximately one-third of the patients in each group had had one or more episodes of severe bleeding, and 10% in each group had suffered previous perforation of an ulcer. The average age was 48 years in group 1 and 43.2 years in group 2. The average duration of symptoms was about 11 years in both groups.

This study aimed to determine whether there was any difference in the immediate postoperative morbidity and mortality in the two groups. The early convalescent period was compared to see whether vagotomy added any undesirable side-effects. Acidity studies were made to determine whether the added vagotomy increased the incidence of patients with achlorhydria. Finally, the follow-up results were evaluated to see whether there were differences in symptomatology and in the recurrence rate.

From the Mount Sinai Hospital, New York.
Read before the Section on Surgery, General and Abdominal, at the 101st Annual Session of the American Medical Association, Chicago, June 12, 1952.

The incidence of operative shock was negligible. In this series, severance of the vagus nerves never caused bradycardia, vagovagal reflex, or cardiac arrest.

Table 1 lists and compares the postoperative complications. In this, as in all subsequent tables, it is necessary to remember that there were 220 patients in group 1 and 165 in group 2. It is apparent that after the combined operation there was a greater incidence of pulmonary complications, gastric retention, vomiting, and diarrhea. Distention was seen twice in group 1 and 7 times in group 2. In five of these latter instances, however, there was definite evidence of peritonitis. It would seem therefore that postoperative distention after the combined procedure was rarely, if ever, the result of vagotomy.

TABLE 1.—*Postoperative Complications Following Subtotal Gastrectomy With and Without Vagotomy*

Complication	Group 1	Group 2
Pulmonary Complications		
Minimal	13	18
Moderate	5	12
Severe	1	5
Retention & Vomiting		
Minimal	5	17
Moderate	2	0
Severe	2	1
Diarrhea		
Minimal	9	12
Moderate	0	5
Severe	0	1
Distention		
Minimal	2	2
Moderate	0	1
Severe	0	4
Substernal Pain		
Minimal	1	2
Moderate	0	0
Severe	0	1
Dysphagia		
Minimal	1	5
Moderate	0	3
Severe	1	0
Duodenal Fistulas	5	5
Perihuodenitis or Subhepatic Abscess	4	8
Pancreatic Fistula	0	1
Peritonitis	1	5
Evisceration	2	0
Intestinal Obstruction	2	0
Phlebothrombosis and Thrombophlebitis	7	12
Jaundice	1	4
Pancreatic Necrosis	0	1
Secondary Hemorrhage	0	2

Late in the course of the hospital stay, several patients complained of substernal pain or dysphagia. There were 3 in the gastrectomy group, one of whom was known to have severe peptic esophagitis, and 11 in the combined group. This may have resulted from mobilization of the mediastinal esophagus, incident to the vagotomy. The other postoperative complications are seemingly unrelated to the added vagotomy, and any variation between the two groups is probably fortuitous.

The postoperative morbidity was greater after the combined operation; this was chiefly a reflection of the increased incidence of pulmonary complications. The average number of days of postoperative elevation of temperature was 5.9 in group 1 and 7.8 in group 2.

There were two mortalities in the 385 consecutive cases; both occurred in group 2, but were unrelated to the vagotomy. One was due to a massive pulmonary embolus, occurring on the second postoperative day; this was proved by postmortem examination. The other occurred on the 42nd postoperative day, and postmortem examination revealed necrosis of the body and tail of the pancreas, peritonitis, subphrenic abscess, erosion of the splenic vessels, and severe hemorrhage. There was no dehiscence of any suture line.

The first three months of the postoperative period have been considered separately. This was done because during the convalescent period temporary disturbances in gastrointestinal function may cause annoying symptoms that must be differentiated from those that are persistent and that impair the ultimate results of the operation. The symptoms during convalescence are listed in table 2. During this period, a larger percentage of patients in the gastrectomy-vagotomy group suffered from diarrhea and vomiting, probably due to the added vagotomy. About an equal number in each group complained of pain or the dumping syndrome. Severe symptoms of recurrent ulcer disease were seen during this early period only in group 1. Four patients in this group suffered severe pain or bleeding or both as evidence of early recurrent ulcer disease.

Follow-up results were obtained in all but three of the surviving patients and are listed by symptom in table 2. It is evident that after the first few months the symptoms due to altered gastrointestinal function were decreased. Vomiting was uncommon. There was a change in the bowel habit in some patients in group 2 that could definitely be ascribed to vagotomy. Constipation was relieved in some, and in others the number of daily bowel movements were increased, often to the point of diarrhea, which was present in the latest follow-up in about 7% of patients. It was disabling in only one case. Mild pain was about equally distributed between the two groups and was most commonly due to ingestion of food beyond the capacity of the smaller stomach. Pain did not always

TABLE 2.—*Symptoms in First Three Months* and at Later Follow-Up Examination After Subtotal Gastrectomy With and Without Vagotomy*

	3 Mo.		4 Mo. to 6 Yr.	
	Group 1	Group 2	Group 1	Group 2
Vomiting				
Minimal	8	8	0	2
Moderate	0	3	1	1
Severe	0	0	0	0
Diarrhea				
Minimal	5	13	4	10
Moderate	4	6	0	0
Severe	0	1	0	1
Pain				
Minimal	16	16	5	6
Moderate	4	1	3	3
Severe	3	0	2	0
Bleeding				
Minimal	0	0	1	0
Moderate	0	0	0	0
Severe	2	0	0	0
Dumping Syndrome				
Minimal	5	5	4	5
Moderate	2	1	0	0
Severe	0	0	0	0

* In group 1 218 of the total of 220 patients and in group 2 162 of the total of 165 were followed.

imply a relationship to the ulcer disease or to the operation performed. In group 1 one patient suffered moderate pain caused by a neoplasm of the sigmoid, and in two patients in group 2 the pain was due to gallbladder disease. Pain and bleeding will be discussed further in summarizing the follow-up results, but it should be noted that there were 10 patients in group 1 who had gastrointestinal hemorrhage and none in group 2. A minimal dumping syndrome was seen in four patients in group 1 and in five in group 2. In some instances, this involved no more than mild vertigo and palpitation after eating.

The follow-up results have been divided into satisfactory and unsatisfactory results as judged by both examiner and patient. In the satisfactory category, two types have been differentiated—the well and the improved. The former group includes patients who were well at all times after operation and also those who had had symptoms during convalescence or earlier follow-up but who were asymptomatic at the last follow-up examination. The patients considered improved are those whose ulcer disease is apparently cured but who do have minor, mildly distressing, symptoms. In group 1, of the 218 patients followed, 195 are well and 8 improved, making a total of 203 patients (93%) in this category. In group 2, of the 161 patients followed, 156 are well and 2 are improved, placing 158 patients (98%) in this category.

The unsatisfactory cases are those with unclassified symptoms, those in which there were suspected jejunal ulcers, and those in which there were jejunal ulcers. The unclassified cases are those with symptoms and disturbances of gastrointestinal function sufficiently severe to warrant the label of unsatisfactory result but no subjective or objective evidence of recurrent ulcer disease. There were two such patients in group 1 and three in group 2; all five suffered pain of moderate severity and either diarrhea, vomiting, or a persistent dumping syndrome. Repeated careful examinations and x-ray studies failed to disclose the cause for these symptoms. One of these patients had a very severe psychoneurosis.

There were two patients in group 1 and none in group 2 whose symptoms were suggestive of recurrent ulcer disease, but who could not be definitely labeled so because of insufficient evidence. One was a patient who suffered bouts of ulcer type pain and whose x-ray studies did not disclose evidence of ulcer. The other was a patient who reported having a tarry stool once (this was never confirmed) and who complained of periodic right upper quadrant pain; results of x-ray and gastroscopic examinations were negative. Continued observation may serve to clarify and recategorize these patients.

There were 10 patients with recurrent peptic ulcer disease in the gastrectomy group and none in the gastrectomy-vagotomy group. The presence of the ulcers was proved either by operation or x-ray examination or strongly suggested by severe gastrointestinal hemorrhage. It is our contention that severe hemorrhage occurring some time after gastric resection for duodenal ulcer must be accepted as reasonably good evidence of ulcerative disease. Such bleeding may occasionally be the result of peristomal gastritis, erosions or jejunitis, but it is oftenest due to actual jejunal ulceration. In any case, the operation that did not protect the patient from massive bleeding must be considered a failure. In this series it has been considered evidence of recurrent ulceration and hence an unsatisfactory result. Four patients manifested their disease within the first year after operation and the remainder within three years and two months. Seven of the 10 suffered one or more painless hemorrhages; 2 had both pain and bleeding, and 1 had pain alone. It should be noted that 6 of the 10 recurrences were in patients who had suffered bleeding prior to their gastrectomy, and that these patients manifested their recurrences in part by hemorrhage. This is in very marked contrast to the patients in the gastrectomy-vagotomy group, in whom, up to the present time, there have been no hemorrhages and no recurrences.

One patient in group 1 died 10 months after the operation. The cause is unknown, but the patient was an epileptic. Two patients in group 2 died subsequently, one of homologous serum jaundice four months after the operation and one of coronary thrombosis two years postoperatively. The latter patient is included in the group considered well after the operation.

TABLE 3.—*Results of Test Meal Studies Following Gastrectomy With and Without Vagotomy from 1946 Through 1951*

Test Substance	Group 1 Total No. Tested	Group 1 No. With Anacidity	Group 2 Total No. Tested	Group 2 No. With Anacidity
Within 3 Months of Operation				
Gruel or alcohol	113	60 (53%)	80	83 (69%)
Night secretion	19	11 (58%)	42	41 (98%)
Histamine	77	27 (35%)	115	76 (66%)
3 or More Months After Operation				
Gruel or alcohol	44	34 (77%)	31	31 (100%)
Histamine	40	27 (68%)	50	42 (84%)

A comparison of the postoperative test meal studies is given in table 3. It would seem that, regardless of the test stimulant or the time interval after operation, gastrectomy with complementary vagotomy consistently produced a higher percentage of patients with gastric anacidity than did gastrectomy alone. Inasmuch as peptic ulceration almost never occurs in the absence of free gastric acidity, the combined operation apparently results in fewer candidates for recurrent ulcer disease.

COMMENT

It would appear from these results that complementary vagotomy performed with subtotal gastrectomy in the surgical treatment of duodenal ulcer afforded added protection against recurrent disease, at the cost of an increase in the postoperative morbidity and of a prolonged moderate diarrhea in about 7% of the cases. These figures are at a variance with those reported by Jordan. It has been stated that vagotomy should be reserved for the small percentage of patients in whom recurrent disease develops after gastrectomy, thus avoiding, in most cases, the untoward sequelae seen after vagotomy. In a series of 20 cases of gastrojejunal ulcers occurring after gastrectomy in which vagotomy was performed at this clinic, about half of the patients were not benefited. It would seem, at this time, that vagotomy is more effective as a preventative measure when combined with subtotal gastrectomy than it is as a curative measure, once jejunal

ulceration has become manifest. Further, the eventual untoward sequelae of vagotomy combined with subtotal gastrectomy are not serious.

We still perform gastroenterostomy, preferably combined with vagotomy, in poor risk patients. Up to this time, the follow-up results have not been as good as with subtotal gastrectomy and vagotomy.

There is, of course, great danger in evaluating any therapy for peptic ulcer after a relatively short period of observation. Recurrent ulceration has been reported as long as 30 years after corrective surgery, so that any statement as to the permanent effectiveness of a given therapeutic modality must be extremely guarded. Recognizing these limitations, we nevertheless feel that the results of the combined procedure appear sufficiently encouraging at present to warrant its employment in all cases of chronic duodenal ulcer in which the additional vagotomy does not materially increase the operative risk of subtotal gastrectomy.

SUMMARY AND CONCLUSIONS

Gastrectomy was done in 385 consecutive cases for duodenal ulcer. This procedure was combined with infradiaphragmatic vagotomy in 165 cases. In the latter group there was an increase in the postoperative morbidity, and there were two mortalities, neither of which could be attributed to the vagotomy. Also, symptoms attributable to altered gastrointestinal function during the convalescent and follow-up periods were more marked. There were, however, 2 suspected and 10 definite cases of recurrent ulceration in the gastrectomy group and none in the gastrectomy-vagotomy group. The combined operation also resulted in a consistently higher percentage of patients with gastric anacidity, in the presence of which ulceration occurs very infrequently. These results appear sufficiently encouraging to warrant the use of the combined operation when the operative risk is not materially increased.

933 Fifth Ave. (Dr. Druckerman).

CHOLECYSTITIS IN NEGRO CHILDREN

REPORT OF TWO CASES

H. Reichard Kahle, M.D.
and
Jack T. Jackson, M.D., New Orleans

Cholecystitis is now recognized as a possible, though by no means common, cause of abdominal symptoms in young children. Credit for calling attention to this fact belongs to Potter.[1] In 1928, after he had observed 4 verified instances of the disease in children and adolescents under 15 years of age during a period of three and one-half years, he reviewed the literature and was able to collect 228 cases of gallbladder disease recorded in this age group from 1722 to August, 1927. In 1938 Potter collected 206 additional recorded cases, including 42 omitted from his first report and 6 additional cases that he had personally observed in the interim.

Ulin and his associates,[2] whose review of cholecystitis in young subjects appeared in February, 1952, found that 474 cases had been reported up to this date. They were unwilling, however, to accept as authentic all the cases that had been recorded. The criteria that they set up excluded (1) cases diagnosed only clinically or on the basis of a positive Graham-Cole test (that is, a test showing a nonfunctioning gallbladder); (2) cases of infectious disease accompanied by pyrexia, dehydration, or starvation; (3) cases of perforated appendicitis with peritonitis, in which the gallbladder was described as distended, nonemptying, or filled with thick, dark bile; and (4) instances of congenital defects of the biliary system. The number of cases that Ulin and his associates were willing to accept as verified was thus reduced from 474 to 326. It is increased to 327 by the inclusion of the case reported by Bonta and Lovingood.[3] This case, which was verified by operation, represents an unusual instance of infection by Salmonella (Oranienburg) micro-organisms in a 4-year-old girl.

One of the interesting features of the review by Ulin and his associates is their report of a questionnaire addressed to a number of surgeons with a large personal experience, including Ravdin, Lahey, Firor, Thorek, and Elman. Many of these men replied that they had had no personal experience with proved primary gallbladder disease in infants and young children, nor did they have any firsthand knowledge of any cases. The two cases of cholecystitis reported in this communication are recorded not only because they occurred in young subjects but because they occurred in Negro children.

REPORT OF CASES

CASE 1.—A 12-year-old Negro boy was admitted to Charity Hospital of Louisiana July 10, 1948, after 24 hours of illness. The onset had been sudden, with severe cramping pain about the umbilicus, chiefly on the right side, radiating to the right upper quadrant. The pain had been present, with only brief remissions, from the time of onset and had been associated with nausea and vomiting. There were no other symptoms, and there had been no previous similar attacks. The temperature was 100.4 F and the pulse 110. The child was not jaundiced. Physical examination revealed considerable tenderness and rigidity in

From the Department of Surgery, Tulane University of Louisiana School of Medicine, and Charity Hospital of Louisiana.

1. (a) Potter, A. H.: Gall-Bladder Disease in Young Subjects, Surg., Gynec. Obst. **46**: 795-808 (June) 1928. (b) Potter, A. H.: Biliary Disease in Young Subjects, ibid. **66**: 604-610 (March) 1938.

2. Ulin, A. W.; Nosal, J. L., and Martin, W. L.: Cholecystitis in Childhood: Associated Obstructive Jaundice, Surgery **31**: 312-326 (Feb.) 1952.

3. Bonta, J. A., and Lovingood, C. G.: Acute Cholecystitis in Childhood: Report of a Case, Surgery **31**: 309-311 (Feb.) 1952.

the right upper quadrant, with a questionable small mass in the right lower quadrant. The white blood cell count was 16,000 per cubic millimeter.

The child, though obviously ill, was in good condition and required no special preoperative preparation. Two hours after his admission to the hospital the abdomen was opened under general anesthesia, through a right paramedian incision, on a diagnosis of acute appendicitis. The appendix was normal and was left in situ. The gallbladder was acutely inflamed, thick-walled, and greatly distended, and a localized peritonitis was present. No stones could be palpated in it or in the ducts. Cholecystectomy was performed without complications. The pathological report was subacute cholecystitis. Recovery was without incident. The child was discharged from the hospital on the sixth postoperative day and from the outpatient clinic a week later.

CASE 2.—A 6-year-old Negro girl was admitted to Charity Hospital of Louisiana Dec. 4, 1951. Her illness had begun 48 hours earlier, with acute, colicky pain just above the umbilicus. She had had two similar previous attacks, one in January and one in April, 1951. Each time after she had been given a vermifuge by the local physician the pain had disappeared.

The mother stated that when the present attack began she could feel small "knots" over the entire abdomen, and, assuming that the illness was one of the same origin as the previous attacks, she gave the child "worm medicine" by mouth. Within an hour the cramps subsided and the knots disappeared. No worms were passed at this time, but after an asymptomatic interval of several hours the pain recurred and six worms were passed. After another asymptomatic interval the pain again recurred and some 15 worms were passed. A few hours before her admission to the hospital the child had another attack of pain. Her mother gave her "soda water antiseptic," after which she vomited twice. She was seen shortly afterward by the local physician, who sent her into the hospital at once, with a diagnosis of acute appendicitis. He noted that the temperature was 100 F, that there was extreme generalized abdominal tenderness with some localization in the right lower quadrant, and that the abdomen was silent on auscultation. The previous history was irrelevant except as noted. Questioning after operation elicited no history of jaundice, melena, acholic stools, or intolerance to fatty foods.

Physical examination in the admitting room of the hospital revealed an irritable, apprehensive girl with a temperature of 102.4 F. There was generalized tenderness over the abdomen, severest in the right lower quadrant, with rebound tenderness in the same area. There was no distention, and no masses could be palpated. The abdomen was silent on auscultation. Rectal examination revealed slight tenderness in the anterior cul-de-sac. When the finger was withdrawn, many worms were passed. Urinalysis was negative. The hemogram revealed 34,450 white blood cells per cubic millimeter. The differential count showed 61% segmented forms, 27% bands, 5% monocytes, 5% lymphocytes, and 1% each eosinophils and basophils. The hematocrit was 40%. The specimen was negative for sickling. The sedimentation rate was 21 mm. per hour. Blood chemistry determinations and determinations of the blood chlorides and of the carbon dioxide combining power of the blood were within normal range. Roentgenograms of the heart and lung revealed no abnormality. Flat plate of the abdomen, in the erect position, showed a moderate amount of gas in the colon but none in the small bowel. No foreign bodies suggestive of ascarids could be seen. There were no soft tissue masses, and the kidneys were apparently normal in position and shape.

The child was submitted to emergency laparotomy, on the diagnosis of probable acute appendicitis complicated by ascariasis without obstruction. The abdomen was opened under ether anesthesia, through a transverse incision. The peritoneal cavity contained a small amount of serous fluid. The appendix showed no evidence of inflammation. Examination of the small bowel revealed numerous ascarids, which were not causing obstruction. The omentum was adherent to an inflammatory mass in the right upper quadrant, which could not be visualized until the incision had been extended across the midline above the umbilicus. The mass was then found to consist of an enlarged, hyperemic, acutely inflamed gallbladder. There were no stones and no ascarids in it or in the common duct, and the common duct was not dilated. A 16 gage trocar was introduced into the fundus of the gallbladder, from which purulent, bile-stained fluid was aspirated. Cholecystectomy was then performed without difficulty.

The pathological report was acute suppurative cholecystitis. The wall of the gallbladder was thickened and edematous, and there were localized areas of necrosis on the surface of the serosa, which was overlaid with a thin layer of purulent exudate. Culture of the bile showed Escherichia micro-organisms sensitive to 10 μg of streptomycin and 10 μg of chloramphenicol. Recovery was completely uneventful. The child was discharged from the hospital on the 10th postoperative day and from the outpatient clinic Jan. 24, 1952.

COMMENT

The two cases reported in this communication represent the only instances of subacute and acute cholecystitis observed in children under 12 years of age from July 1, 1940, to Jan. 1, 1951. It is interesting that both occurred in Negroes, although gallbladder disease is considerably less frequent in this race than in white subjects. DeCamp, Ochsner, and their associates,[4] who reviewed the records of acute cholecystitis at this institution for the 11 year period ending June 30, 1951, state the rate per 100,000 adults, in nonobstetric admissions, was 200 for white patients and 106 for Negro patients. Potter,[18] in his first collection of cases, stated that Negro children are affected far less frequently than white children but did not state the racial incidence in his tabulated data. In his second collection he did not mention the matter at all. In the 43 cases collected from the literature by Ulin and his associates [2] between 1938 and 1952 there were 3 Negroes: a 4-year-old boy; a 13-year-old boy, and a 10-year-old girl.

Bonta and Lovingood [3] call attention to the fact that the number of recorded cases of cholecystitis in children in the 10 year period ending in 1952 was much smaller than in previous years. They speculate whether the frequent use of antimicrobial agents for acute abdominal symptoms is the explanation. Their theory is that this method of treatment halts the infectious process in the gallbladder before it becomes acute. Since the use of antibiotics has now reached the stage of promiscuity, it should soon be possible to determine the validity of their suggestion. A week prior to admission their own patient had been treated with penicillin for 48 hours for acute otitis media. When her abdominal symptoms developed she was given penicillin and streptomycin, but she failed to improve and operation had to be undertaken.

Another interesting feature of the second of these case reports is the parasitic infestation present. It led to improper management before the child was admitted to the hospital and, for obvious reasons, confused the diagnosis. The infestation, however, proved to have nothing to do with the cholecystic disease. The con-

4. DeCamp, P. T., and others: Timing in the Surgical Treatment of Acute Cholecystitis, Ann. Surg. 135:734-745 (May) 1952.

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siderable literature that has grown up on the subject of ascariasis [5] includes several reports, chiefly in the British literature, on ascarid invasion of the gallbladder and biliary ducts. A number of these reports concern children. The case recorded by Pasley [6] in 1925 occurred in a Tamil boy, aged 12, with a previous history of infestation. The preoperative diagnosis of cholelithiasis and ascariasis of the biliary system was confirmed at operation. Stones were found in the common duct, and a portion of a worm was embedded in a stone in the papilla of Vater. Pathological examination confirmed the gross observations, and the pathologist speculated that the worms, by acting as contaminated irritative foreign bodies, were responsible for the formation of the calculi. As to how ascarids enter the gallbladder, one theory is that the ovum hatches in it. Another is that the worm migrates from the intestine into the common cystic ducts while it is still small enough to traverse them. In this connection, Butt [7] cites Deavor's description of the cystic duct, to the effect that in its normal condition its sinuous course and the peculiarities of its mucosal lining make it difficult to carry even the smallest probe through it.

Ulin and his associates [2] have given an excellent differentiation between cholecystitis in childhood and in adult life: Choledocholithiasis is much less common in childhood, but jaundice is much commoner. The explanation is that in childhood jaundice is most commonly caused by an acute inflammatory process adjacent to, and involving, the ducts, while in the adult it is caused by stones. Etiologically, cholecystitis in childhood is frequently associated with some acute infectious process such as scarlet fever, measles, and typhoid fever. Clinical signs and symptoms do not differ greatly in the two age groups. Pathologically, the gallbladders removed from children are likelier to show the acute changes suggested by the clinical picture than are the organs removed from adults. That this is not an invariable observation is evident from the first of the cases reported in this communication; the clinical signs and symptoms were extremely severe, but the pathologist reported subacute disease.

The chief diagnostic difficulty in childhood is that the disease, because it is infrequent, is seldom remembered. Usually, therefore, operation is done on the diagnosis of acute appendicitis. It is a sound routine, if the appendix proves normal on exploration, to explore the gallbladder region. This routine will not be followed, however, unless the possibility of cholecystitis is kept in mind.

Separation of Potter's first series of reported cases into two periods throws an interesting light on changes in the diagnosis and management of cholecystitis in young children with the passage of time. Considering only the cases in which data concerning postmortem examination and surgery were positive, diagnosis was not made until necropsy in 54 cases recorded between 1722 and 1899 inclusive, and only 6 patients were operated on. In three instances the operation was limited to drainage of the peritoneal cavity. Between 1900 and 1927 inclusive, the diagnosis was made at necropsy in only 17 cases and 102 patients were operated on. In 84 of these cases the procedure consisted of cholecystotomy, cholecystostomy, or cholecystectomy. The increasing frequency of surgical management in the second series and the greatly reduced mortality clearly indicate the correctness of operation in cholecystitis in young subjects, though refinements in anesthesia, surgical technique, and preoperative and postoperative care must not, of course, be discounted in an analysis of the results.

SUMMARY

Two cases of cholecystitis, one subacute and the other acute suppurative, are reported in Negro children. The disease is uncommon in childhood and is much less frequent in this race than in the white race at all periods of life. Etiology, diagnosis, and management are briefly discussed.

1430 Tulane Ave. (12) (Dr. Kahle).

5. Ochsner, A.; DeBakey, E. G., and Dixon, J. L.: Complications of Ascariasis Requiring Surgical Treatment: Report of Case with Abdominothoracic Complications, Am. J. Dis. Child. 77: 389-407 (March) 1949.

6. Pasley, C. B.: Gall Stones in Adolescents, Brit. M. J. 1: 1077 (June 13) 1925.

7. Butt, A. P.: Round Worm in Gallbladder, Surg., Gynec. & Obst. 88: 215-216 (Aug.) 1922.

Crossmatching for Transfusions.—The practical application of . . . new knowledge of blood group immunology to blood transfusion (an everyday procedure) has lagged behind its application to the diagnosis and treatment of hemolytic disease of the newborn, a comparatively rare complication. In part, this has been due to the fact that the blood bank's best "customers," the surgeon and internist, have shied away from the growing complexities of blood grouping and transfusion problems. This has led to an inadequate appreciation of the importance of some of the most modern techniques in blood bank laboratories. Perhaps pathologists and blood bank directors are equally guilty by not keeping their clinical colleagues informed of these new developments. Whatever the reasons, it is still common practice in many hospital laboratories—even in some of those which have developed an excellent maternity Rh testing service—to rely solely on the "saline" crossmatching procedure for transfusion. This time-honored crossmatching method, utilizing donor red cells suspended in saline to which recipient's serum is added, not only fails to elicit many potent antibodies of the Rh system, but may also fail to detect numerous other immune antibodies with the potential capacity to cause serious transfusion reactions. Certainly, one should not place sole reliance on this direct compatibility test if one is to apply the present knowledge of the many new blood factors and thereby lower the hemolytic transfusion reaction rate. One of the newer procedures, e. g., avoiding saline and employing the red cells suspended in their own native serum or bovine albumin, detects the majority of incompatible antibodies and requires no additional facilities or equipment.

In addition to crossmatching with donors' red cells suspended in serum or albumin media, all patients receiving repeated spaced transfusions deserve the added precaution of crossmatching by the indirect Coombs' procedure (indirect antiglobulin test) to detect certain nonagglutinating antibodies such as anti-Fy (Duffy) and occasionally anti-K (Kell) which are known to be capable of causing serious reactions.—I. W. Brown Jr., M.D., Safer Blood Transfusion, *Blood*, February, 1953.

EVALUATION OF RED CROSS GAMMA GLOBULIN AS A PROPHYLACTIC AGENT FOR POLIOMYELITIS

4. FINAL REPORT OF RESULTS BASED ON CLINICAL DIAGNOSES

William McD. Hammon, M.D., Dr.P.H., Pittsburgh, Lewis L. Coriell, Ph.D., M.D., Camden, N. J.
Paul F. Wehrle, M.D., Pittsburgh
and
Joseph Stokes Jr., M.D., Philadelphia

The three preceding papers of this series [1] described the plan and preliminary results of a series of three controlled field trials to evaluate the effectiveness of Red Cross gamma globulin in the prevention of paralytic poliomyelitis. These trials were carried out in communities experiencing epidemics of poliomyelitis. Rigid controls and criteria for conducting this study and for evaluating cases were followed in an attempt to avoid errors due to bias or chance. Among these safeguards were (1) the injection of all volunteers, half with gamma globulin and half with gelatin solution, without anyone's knowing at the time which material was injected; (2) the random distribution of gelatin and gamma globulin among volunteers and the maintenance of accurate records assured by the method of packaging, labeling, and recording; (3) the inclusion of sufficiently large numbers of volunteers to make the subsequent results statistically significant; (4) the decision on final diagnosis and evaluation in all cases before determination of which children received gamma globulin; and (5) the inclusion of only paralytic cases in the final analysis. These criteria and others described previously were followed throughout. In this report are presented the final tabulations and analyses of clinically diagnosed cases of paralytic poliomyelitis that occurred in the children who received either gamma globulin or gelatin in the three communities studied. In addition, although not entirely comparable, children of the same age group who did not receive injections have been considered as a third group for purposes of comparison. Detailed epidemiological data and the results of laboratory studies on infection and immunity will be presented in subsequent reports.

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From the Department of Epidemiology and Microbiology, Graduate School of Public Health, University of Pittsburgh; Director of Project, Professor and Head of Department of Epidemiology and Microbiology (Dr. Hammon); Deputy Director of Project and Director, Camden Municipal Hospital for Contagious Diseases and Department of Pediatrics, School of Medicine, University of Pennsylvania (Dr. Coriell); Director of Follow-Up Team and Epidemiologist, Iowa-Nebraska Study, United States Public Health Service Communicable Disease Center, University of Pittsburgh (Dr. Wehrle); Consultant of Project and Physician-in-Chief, The Children's Hospital of Philadelphia and Department of Pediatrics, School of Medicine, University of Pennsylvania (Dr. Stokes).

1. (a) Hammon, W. McD.; Coriell, L. L., and Stokes, J., Jr.: Evaluation of Red Cross Gamma Globulin as a Prophylactic Agent for Poliomyelitis: 1. Plan of Controlled Field Tests and Results of 1951 Pilot Study in Utah, J. A. M. A. **150**: 739-749 (Oct. 25) 1952. (b) Hammon, W. McD.; Coriell, L. L., and Stokes, J., Jr.: Evaluation of Red Cross Gamma Globulin as a Prophylactic Agent for Poliomyelitis: 2. Conduct and Early Follow-up of 1952 Texas and Iowa-Nebraska Studies, ibid. **150**: 750-756 (Oct. 25) 1952. (c) Hammon, W. McD., and others: Evaluation of Red Cross Gamma Globulin as a Prophylactic Agent for Poliomyelitis: 3. Preliminary Report of Results Based on Clinical Diagnoses, ibid. **150**: 757-760 (Oct. 25) 1952.

CRITERIA FOR DIAGNOSIS AND CLASSIFICATION

Since interpretation of much of the data rests on an understanding of the criteria used for diagnosis and classification, these are reviewed briefly and an additional quantitative method used for evaluating total muscle involvement is defined. Repeated, careful examinations following the acute febrile phase of the disease were made by specially selected physicians and physical therapists of our staff to detect and measure the degree of any paralysis. A diagnosis of paralytic poliomyelitis was made only in cases in which there were a characteristic history and physical findings together with definite weakness of one or more muscles in the absence of pain, muscle spasm, or other cause to explain it. These cases were classified as paralytic regardless of the degree of eventual recovery. Tests for strength were done separately on 124 muscles or muscle groups, and 20 circumference measurements were made to estimate the muscle bulk and to assist in detecting subsequent atrophy. On each patient this examination was repeated at least three times: at the end of the febrile period, 30 days after onset, and 60 days after onset. Additional examinations were made by a physician or physical therapist if a reasonable doubt existed as to the accuracy or reliability of any previous one. Each of the muscles or groups was graded at each of the three examinations by the physical therapist as normal (N), good (G), fair (F), poor (P), trace (T), or no power (O). A fair grade indicates that the muscle can just carry out its normal range of motion against gravity, but cannot overcome any additional resistance. Therefore, muscles graded as less than F are not effective in the functional sense, while those with a grade of F + or more can perform useful work. For the purpose of this study, the final classification of degree of paralysis for each patient has been based on the results of the 60 day examination.

A tentative functional classification of the whole patient, which was based on the grade of the weakest muscle, was used in making our preliminary report.[1c] This classification which will be referred to as "grading," composed of grades 1, 2A, and 2B and 3, is described again in the footnote of table 5. This system of grading has certain obvious limitations.

In this report, in addition to grading, an attempt has been made to classify each patient by the bulk of effective muscle lost. This will be referred to as "scoring." After consultation with Dr. Jessie Wright, each of the muscles or groups examined was assigned a factor proportionate to its bulk. The tibialis anticus was selected as a standard

and assigned a factor of 1. The various factors for other muscles ranged from the smallest, 0.25 (represented by all the interossei dorsales or the lumbricales) to 4 (represented by the quadriceps femoris). This factor was multiplied by a numerical representation of the grade of paralytic involvement of that muscle or group, O for normal to 5 for no power. For example, a gastrocnemius, with 3 as a factor of bulk and a poor (4) grade of muscle strength, would receive a score of 12 (3 times 4). The scores for all muscles of each patient were added to give the total score for that patient. The highest score possible in the event of complete paralysis of all of a patient's muscles is 560 by this method. This score was always computed with the results of the 60 day muscle examination. Thus, if a patient with paralysis recovered completely in 60 days, he would have a score of O. This type of patient was previously represented by grade 1. The two systems are not necessarily comparable, however. For example, a child with only the opponens pollicis involved, which graded trace, would score 2 by the new classification but fall into grade 3 (severest), by the previous system. No method is entirely satisfactory, but scoring is an attempt to represent the total muscular involvement, and grading is an attempt to indicate the severity of paralysis of the most extensively involved muscle or group. Both systems will be used for making comparisons.

A diagnosis of nonparalytic poliomyelitis was made only in the presence of positive cerebrospinal fluid findings, associated with a typical history and clinical manifestations. These cases have not been used in any of the comparative studies presented here of the children who received injections.

RANDOM DISTRIBUTION OF BIOLOGICALS

Before making any analyses of results it was necessary to establish that gamma globulin and gelatin had been given to equal numbers of children on a truly random basis in all areas. Record cards of all children inoculated in Utah County, Utah, were analyzed by type of inoculum, but, on the advice of our statistical consultant, a 10% sample was selected for this purpose from the 49,005 records for 1952. All record cards had been arranged in alphabetical order by area. Every 10th card was removed from the file for the sample. These samples of the two areas were analyzed separately in the same way as the group from Utah, as shown in table 8 of the first paper of this series.[1a] The analysis indicated that the distribution of children receiving gamma globulin or gelatin was essentially identical by sex and by 5 lb. weight groups. These samples were then combined with the total from Utah, making in all 10,569 records or about 20% of the total number of children who were given injections in both years. When analyzed in the same manner, the randomization was again found to be entirely satisfactory. Analysis involving consideration of sampling errors indicated that the slight deviations from exact equal distribution could be readily explained by chance.

From the above analyses it is concluded that a random distribution of children among the two groups inoculated with gamma globulin or gelatin was attained. This was accomplished without anyone's knowing which agent was administered to any child until after the follow-up studies in the field were completed and until a final diagnosis and 60 day muscle grading had been made for every case occurring among the inoculated children. The key lists identifying the content of each disposable syringe were not obtained from New York until December, 1952.* In this way no bias could occur at any time.

TEXAS

The course of the epidemic in Houston and the rest of Harris County, Texas, from Jan. 1 to Dec. 31, 1952, is recorded in table 1, and the weekly rates for the portion of particular interest in the study are presented in chart 1.

TABLE 1.—*Total Cases of Poliomyelitis in Harris County, Texas, from Jan. 1 to Dec. 31, 1952, According to Week of Onset*

Week Ending	Houston	Rest of County	Total
1/ 5/52 to 3/29/52	29	21	50
4/ 5/52	2	0	2
4/12/52	2	2	4
4/19/52	2	1	3
4/26/52	6	2	8
5/ 3/52	8	1	9
5/10/52	2	0	2
5/17/52	2	2	4
5/24/52	8	1	9
5/31/52	7	10	17
6/ 7/52	19	17	36
6/14/52	22	12	34
6/21/52	41	32	73
6/28/52	25	20	45
7/ 5/52	34	32	66
7/12/52	33	19	52
7/19/52	39	16	55
7/26/52	31	16	47
8/ 2/52	28	15	43
8/ 9/52	15	8	23
8/16/52	15	13	28
8/23/52	15	7	22
8/30/52	15	8	23
9/ 6/52	9	2	11
9/13/52	5	4	9
9/20/52	10	3	13
9/27/52	5	4	9
10/ 4/52	4	3	7
10/11/52	5	0	5
10/18/52	3	0	3
10/25/52	2	0	2
11/22/52	0	1	1
11/29/52	1	0	1
12/20/52	2	0	2
Total	446	272	718

Because of the size of the area and the large number of patients, no attempt was made to study in detail either the patients or their records if the onset date preceded July 2, 1952, or if the age was outside the age range of the study group. The epidemiological records from the two health departments were examined, however, in an attempt to classify patients as having paralytic or nonparalytic poliomyelitis. There was conspicuous underreporting (the evidence will be presented later), and several cases in the study group, classifiable by health de-

* As described previously,[1c] identification of the inoculum given in the 90 cases discussed in the preliminary report was obtained by sending the serial numbers of their inoculum to New York, where the lists were held. Lists had not been in our hands previous to December, 1952.

partment records as nonparalytic, were found to have definite muscular weakness when examined by members of the research team. Thus, over-all rates and the proportion of nonparalytic cases cannot be considered very accurate.

The bulk of the population of both the city and the rest of the county is urban, and clinics in general were equally available and well attended in both areas. Injection clinics were held from July 2 through 12. The time relationship of the clinics to the peak of the epidemic in both city and county can be readily observed in chart 1.

The total number of cases was 446 for Houston, 272 for the rest of the county, and 718 for the city-county area, making rates (the populations were given in table 3 in the second paper [1b]) per hundred thousand of 70, 116, and 82 respectively. This is the severest epidemic ever experienced by this area, and a rate such as this is only rarely attained in urban and semiurban populations of 600,000 to 1,000,000 persons. Among all patients of all ages, as obtained from the health department records plus our records, 16.1% had the bulbar type, 1.0% the encephalitic, and 50.7% other types of paralysis; 32.2% had nonparalytic poliomyelitis. Of all patients, 3.8% died. There were 501 cases in the age group 1 through 6 years (age of study group), making an age specific rate of 243 per hundred thousand. Among 153 patients in this age group, including both patients who received injections and patients who did not but who were all examined by team members, 11.8% were classified as having bulbar poliomyelitis, 3.9% encephalitic, 70.6% other types of paralysis, and 13.7 nonparalytic disease. Among these, 1.3% were fatal.

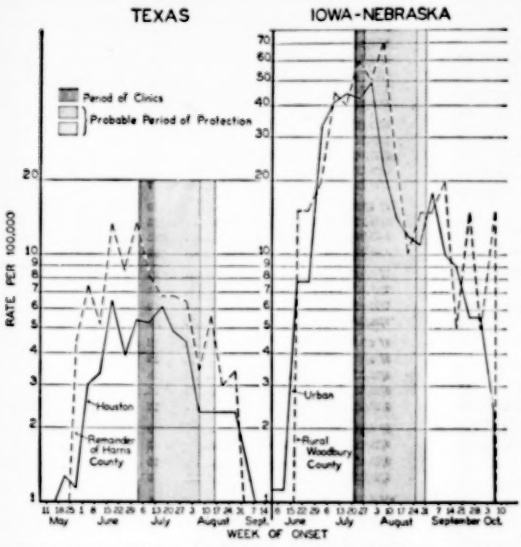


Chart 1 (based on tables 1 and 2).—Peak portions of poliomyelitis epidemics occurring in Harris County, Texas, and in Woodbury County, Iowa, and Dakota County, Nebraska, recorded as rate per 100,000 by week of onset of illness. The first, broader band showing probable period of protection represents the five week period dating from the opening day of the clinics, and the second, narrower band represents the fifth week after the closing of the clinics.

IOWA-NEBRASKA

The course of the epidemic in the Iowa-Nebraska area from Jan. 1 until Dec. 31, 1952, is recorded in table 2 and the weekly rates by urban and rural elements are shown in chart 1.

Records of all reported patients were carefully examined by team physicians for the total epidemic period, and our records, therefore, present a more accurate picture of the whole epidemic than that obtained in Texas, in the sense that all reported patients—including some who had not received injections as well as those who had—were evaluated by the same staff. Some underreporting undoubtedly occurred in this area also. Applying the same rigid criteria for diagnosis as were used in the study group led to the exclusion of 78 reported cases in the final tabulations, reducing the total from 488 to 410. Most of the patients excluded were originally considered to have nonparalytic disease but had normal spinal fluid or no spinal fluid examinations. A few cases originally considered paralytic were excluded on the basis of the results of muscle examinations or other findings.

Injection clinics were held from July 21 through 26. From the trend of cases reported at the time of the preliminary report, it appeared that the peak of the epidemic had already passed when the area was selected for the study, but final case finding and reporting showed a progressive increase in the number of cases in the urban area up to the week after closing of the injection clinics and in the rural area (where the lowest proportion attended clinics) the highest peak occurred one week later than in the urban area. Rates then fell in both areas.

The case rate (populations were given in table 8 of the second paper [1b]) per 100,000 for the total study area, including patients of all ages and all reported patients, was 427; 23.2% of cases were nonparalytic and 76.8% were paralytic. Excluding those cases not meeting our criteria, the case rates were as follows: all ages, all areas, 358; including only ages 1 to 11 years (age group selected for test) 978; Sioux City, all ages, 335; South Sioux City, 494; Woodbury County, Iowa (rural) 452; and Dakota County, Nebraska (rural) 227. Bulbar cases made up 30.0% of the total, encephalitic 5.1%, other types of paralysis 56.4%, and nonparalytic 8.5%. Of these, 6.8% were fatal. Of 129 patients 1 through 11 years old, including patients who received injections and those who did not, examined by the research team and included in this analysis, 32.6% had bulbar poliomyelitis, 5.4% encephalitic, 55.0% other types of paralysis, and 7.0% nonparalytic. The case fatality rate was 3.1%. This outbreak in the urban area therefore appears to be the severest ever recorded for an urban community of 85,000 population or more, or for a combined urban-rural county area as large as this with similar preponderant urban population.

FOLLOW-UP

No late complications resulting from the injections came to the attention of the follow-up team physicians and physical therapists in either area. There were no late abscesses or delayed local or systemic reactions that could be attributed to the injections.

A follow-up team of at least one physician and one physical therapist stayed in the areas as long as cases of poliomyelitis continued to occur in children in the study groups and for the duration of the necessary follow-up study. Onset of the last paralytic case in the injected group was on Oct. 5 in Texas and on Oct. 10 in the Iowa-Nebraska area. In both areas, among the children who received injections, the longest interval from injection to onset of paralysis was 13 weeks and occurred in Texas. Among the children who did not receive injections but were in the age groups studied, the longest interval between onset and the closing of the clinics was 14 weeks, also in Texas. Thus, analyses for all children of clinic age groups terminate 14 weeks after clinics were closed. A few cases outside the study age group and nonparalytic cases in the study age group were reported by the local health officers during November and December. More detailed information regarding these was obtained by letter from the physicians in attendance. The last of these cases reported through Dec. 31, 1952, had its onset on Dec. 20 in Texas and on Oct. 11 in the Iowa-Nebraska area.

RESULTS

Prevention.—The final numbers of cases of paralytic disease occurring in the gamma globulin and gelatin groups by study area and by week after injection for the total duration of the 1951-1952 epidemics are presented in table 3 and in the upper portion of chart 2. These data differ only slightly from those presented in the preliminary report,[1c] which included 90 cases. Out of a final total of 104 cases occurring over a period of 13 weeks, 73 occurred in the control group and 31 in the group receiving gamma globulin. This difference is highly significant ($\chi^2 = 16.99$; $p < 0.001$).

When the period of observation is divided, a number of important facts appear. During the first week, the protection against paralytic disease (as defined in this study) was not significant, 12 or 42.9% of 28 cases occurring in the gamma globulin group. It will be shown below, however, that the severity of disease was definitely modified.

It will be noted that during the second week (table 3) only 3 cases occurred in the children inoculated with gamma globulin as compared to 24 among those given gelatin. This is a very highly significant difference. Due to rapidly declining epidemic rates (chart 1), numbers of cases in individual weeks, except for the second, are unfortunately too small to permit determining the comparative effectiveness of protection by weekly periods. The numbers therefore must be grouped. It appeared reasonable, although admittedly somewhat arbitrary, to group the weeks two through five. During this period cases occurring in the children inoculated with gamma globulin represented only 15.2% of the total, or 7 out of 46, a highly significant difference ($\chi^2 = 22.27$; $p < 0.001$). Maximal protection occurred in this period. Five weeks after injection would appear to be the approximate duration of protection for most persons, but since only three cases occurred in the fifth week and very few in any one week, this limit cannot be accurately determined.

During the next three weeks, the sixth through the eighth, 35% of all 20 cases occurred in the children inoculated with gamma globulin. This suggests that adequate protection had been lost in many children, but persisted in some. However, the difference between the children inoculated with gamma globulin and with gelatin in this period is not significant ($\chi^2 = 1.80$; $p > 0.1$). Since a gradual decline of protection would be expected with a gradual loss of antibody, it seems probable that some protection did persist in certain children until the sixth or eighth weeks.

After the eighth week, an exactly equal number of cases occurred in the gamma globulin and gelatin groups

TABLE 2.—*Total Cases of Poliomyelitis in Woodbury County, Iowa, and Dakota County, Neb., from Jan. 1 to Dec. 31, 1952, According to Week of Onset*

Week Ending	Urban*	Rural		Total
		Iowa†	Nebraska‡	
4/12/52	1	0	0	1
5/24/52	1	0	0	1
6/14/52	1	0	0	1
6/21/52	7	3	0	10
6/28/52	7	3	0	10
7/ 5/52	29	4	1	34
7/12/52	37	9	1	47
7/19/52	40	8	1	49
7/26/52	39	12	1	52
8/ 2/52	44	10	4	58
8/ 9/52	21	14	0	35
8/16/52	13	5	1	19
8/23/52	11	2	0	13
8/30/52	10	3	0	13
9/ 6/52	16	3	1	20
9/13/52	9	4	1	14
9/20/52	8	1	0	9
9/27/52	5	3	0	8
10/ 4/52	5	1	0	6
10/11/52	2	3	0	5
Unknown	3	2	0	5
Total	309	90	11	410

* Urban: Sioux City, Iowa, and South Sioux City, Neb.
† Iowa: Woodbury County excluding Sioux City.
‡ Nebraska: Dakota County excluding South Sioux City.

five and five respectively. Although these numbers are small, there is nothing to suggest that those 27,500 children passively and temporarily protected for five to eight weeks, when returned to the infected community as potentially susceptible, were any more susceptible at that time than those who had been given gelatin. This might mean that inapparent infection associated with a more permanent active immunity occurred equally in the gelatin and gamma globulin groups. Numbers unfortunately are too small to lend strong support to this hypothesis.

During the period from the 2nd through the 13th weeks, which begins when maximal protection became apparent, 19 cases occurred in the gamma globulin group and 57 in the controls. This difference is also highly significant ($\chi^2 = 19.03$; $p < 0.001$), even though it includes a late period of waning and lost protection. The weekly cumulative number of cases in this period is presented in chart 3.

Modification.—In the last report,[1c] it was pointed out that possible modification of disease had occurred in children who became ill less than one week after receiving gamma globulin. This aspect has now been studied more carefully.

Significant protection against paralytic disease as defined in this study was not apparent in the first week; 12 out of 28, or 42.9%, patients had been inoculated with gamma globulin. This number includes all the mildly paralyzed patients, many of whom might be said to have a nonparalytic form if less careful and time-consuming muscle examinations were employed. Excluding all patients with no or slight residual weakness at 60 days presents quite a different distribution of cases

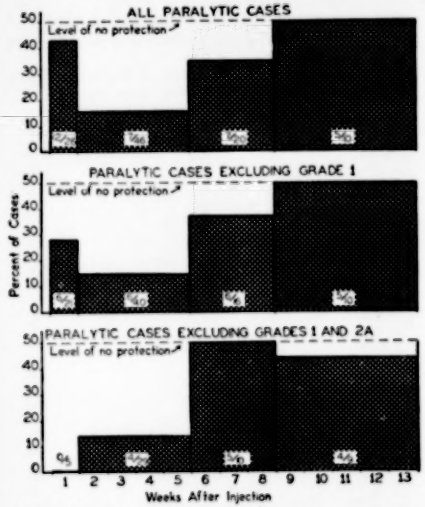


Chart 2 (based on table 3).—Percentage of cases of paralytic poliomyelitis that occurred in children in the inoculated study groups who had received gamma globulin, according to severity of paralysis and time of onset after inoculation. The percentage that occurred in children receiving gelatin is not shown but would be the difference between the percentage shown and 100%. The denominator of the numerical fraction shown in each column is the total number of cases in both the gamma globulin and gelatin groups, and the numerator is the number of cases in the gamma globulin group. The severity or grade of paralysis is based on findings in the 60 day muscle examination, as defined in a footnote to table 5.

during the first week. As shown in the middle portion of chart 2, if one excludes those patients who recovered completely within 60 days (grade 1 or muscle score 0) only 6 out of 21 or 28.6% were in the gamma globulin group. This represents complete recovery for 6 out of 12 in the children who received gamma globulin as opposed to 1 out of 16 who received gelatin.† The difference is significant ($\chi^2 = 7.0$; $p < 0.01$).

In the lower portion of chart 2, the cases that occurred in the gamma globulin group are shown after exclusion of patients classified in both grades 1 and 2A, the latter being those with no muscle grading below "good." In these cases there is no significant weakness and a high proportion are frequently reported as nonparalytic or are not diagnosed at all since the patients can carry out all normal physical activities without handicap. In the first week after injection, excluding this group in addition to those who recovered completely, no cases remain in the gamma globulin group, while five remain among the controls.

When cases occurring during the first week after injection are tabulated by muscle score instead of by grade, the control group again appears to be more severely involved, as shown in table 4. To examine the data for the first week in another way, the means and medians of the involvement scores of patients in both groups were calculated. For the 12 patients in the gamma globulin group, the median was 1.5, and for the 16 controls, it was 10.3. The means were 5.57 and 18.74 respectively. For another test of significance, the following four-fold table was constructed, based on a muscle score above or below 7.25. The probability of such a distribution of scores occurring by chance alone is less than two

		Gamma Globulin	Gelatin
Score	> 7.25	3	11
	< 7.25	9	5

times in a hundred. Other evidence of modification during the first week after injection was presented in tables 3 and 4 of paper number 3.[1c]

All these classifications are based on objective measurements made before anyone knew which patients had received gamma globulin. They show that poliomyelitis occurring during the first week after injection of gamma globulin is significantly milder than that occurring among the controls who were inoculated with gelatin. It will be pointed out later that the disease was severer in reported cases from the same age group of uninoculated children than in cases from the group inoculated with gelatin. Poorer reporting of mild cases in the uninoculated group probably accounts for this discrepancy. We conclude that gamma globulin given less than one week before the onset of disease affords significant protection against or modification of the paralytic disease. This period probably represents the latter part of the incubation period in many instances and somewhat earlier in others, and thus the results can be considered to parallel those obtained in measles.

The cases occurring during the periods of maximal and waning protection were examined next for severity, and comparisons were made by all the methods applied above to cases occurring during the first week (see chart 2, center and lower portions, and tables 5 and 6). During the second through the fifth weeks, the mean muscle involvement score of the gamma globulin group was 69.6 and of the gelatin group 73.8. Through the period 2 to 13 weeks after injection, the means were 65.5 and 61.02. When scores or grades were examined in a variety of ways, such as shown for the cases of the first week, no significant differences in severity were noted. We conclude that no modification of severity has been demonstrated except when the onset of disease occurred during the first week after injection of gamma globulin. Reasons for the failure to protect certain persons are not under-

† An error occurred in writing the preliminary report[1c] stating that none had recovered completely in the control group. This occurred in mistaking a 30 day examination for one patient for the one made at 60 days.

stood. Possible reasons are as follows: an overwhelming dose of virus, occasional entrance of the virus by a direct nerve route such as the olfactory (antibody in moderate dosage does not protect the monkey against this experimental route), an immunologic type of virus for which adequate antibody was not present in the gamma globulin, or unusual host susceptibility. If the failures after the first week were in patients with an unusually long incubation period who were given gamma globulin too late after infection, the antibody might be expected to cause as much or more modification as it did in the cases occurring within a week after injection. Since no modification can be demonstrated in these cases, this explanation appears unlikely.

All those cases that occurred between the second and fifth weeks in the gamma globulin group were restudied for evidence of special age distribution, familial susceptibility, unusual exposure, fatigue, or trauma preceding disease or other unusual occurrence, but no significant information was detected in this survey.

permitted adequate follow-up and analysis, there was no evidence of any localization of paralysis in the right leg (where all injections were made) in the group that received injections compared with the group that did not receive injections and that morbidity rates in the group that received gelatin were identical to those in the group of the same age who were not inoculated.

In the studies of the possible provocation of paralysis by diphtheria, pertussis, and tetanus alum depot antigens and certain other types of injected materials, it has been noted and pointed out in summarizing reports by special committees,[2] that evidence for an increase in the actual number of cases is tenuous and not proved. It does appear, however, that for certain immunizing injections there is statistical evidence of localization of paralysis in the arms, which were the limbs where the injections were usually made. Even this phenomenon did not occur frequently and could be detected only when very large numbers of cases were studied. Any demonstrated effect was usually restricted to injections known to have been

TABLE 3.—*Number of Cases of Paralytic Poliomyelitis Among Inoculated Children in Three Study Areas, by Place, by Type of Inoculum, and by Week After Inoculation*

Weeks After Inoculation	Utah		Texas		Iowa-Nebraska		Three Areas Combined					
	Gamma Globulin	Gelatin	Gamma Globulin	Gelatin	Gamma Globulin	Gelatin	Gamma Globulin	Gelatin	Total	Gamma Globulin, %	χ^2	p
1	0	1	4	3	8	12	12	16	28	42.9	0.57	>0.3
2	0	1	1	7	2	16	3	24	27			
3	0	0	2	4	1	4	3	8	11	15.2	22.27	<0.001
4	0	0	1	2	0	2	1	4	5			
5	0	0	0	1	0	2	0	3	3			
6	1	1	2	0	0	3	3	4	7			
7	0	0	1	1	2	5	3	6	9	35.0	1.80	>0.1
8	0	0	0	2	1	1	1	3	4			
9	0	1	2	0	2	0	4	1	5			
10	0	0	0	0	0	1	0	1	1			
11	0	0	0	0	1	0	1	0	1	50.0	....	.....
12	0	1	0	0	0	1	0	2	2			
13	0	0	0	1	0	0	0	1	1			
2-13	1	4	9	18	9	35	19	57	76	25.0	19.03	<0.001
Total	1	5	13	21	17	47	31	73	104	29.8	16.99	<0.001

POSSIBLE EFFECT OF GELATIN AND THE VALIDITY OF THE GELATIN CONTROL GROUP

The question might be reasonably raised, is it possible that gelatin injections provoked paralysis? If so, a comparison with the gamma globulin group might be invalid. To seriously consider such a possibility it would also be necessary to postulate that the injection of gamma globulin in the other test group did not have the same potentiating effect as an injection of gelatin in the control group. This could be considered possible, since concentrated antibody was placed at the site of trauma where it might prevent the entrance of the virus into a damaged or exposed nerve in the local area, should this be the mechanism accounting for provocation by injection. If such were the case, the tests as analyzed might demonstrate only that gamma globulin prevents traumatically induced poliomyelitis, but not necessarily naturally acquired disease. This matter has been examined in detail. It had already received careful consideration by the investigators when the first report was made. Such an occurrence appeared highly improbable as an explanation for the protection observed, but limited time and incomplete data necessitated postponement of discussion until this final report. It was pointed out, however,[1a] that in the pilot study in Utah, where time had given during the period up to three weeks or one month before the onset of poliomyelitis. The members of the advisory committee of experts assisting our team were of the opinion that there was no evidence to suggest that the biologicals to be used in this test would increase the incidence of, or localize, paralysis and felt that it was unlikely that this would occur.[1a] Following the pilot test, there seemed to remain no doubt of the safety of the control injections;[1b] however, it is essential to examine the additional data on this question.

Two distinct questions are to be settled: 1. Does gamma globulin protect against the naturally acquired disease? 2. A question that may affect the answer to the former is did the injection of gelatin increase the incidence of, or localize, paralytic poliomyelitis? To answer each of these the comparability of the uninoculated population to that of either of the inoculated groups is of great importance, and equally important is the matter of completeness and accuracy of reporting from each of the populations.

It should be recalled that a control group of volunteers who received injections was employed because it

2. Editorial: Relationship Between Inoculations and Poliomyelitis, J. A. M. A. **149**: 170 (May 10) 1952. Association News: Revision of Statement on Polio and Immunizations, Am. J. Pub. Health **42**: 750 (June) 1952.

was believed that the group of children failing to come to clinics as volunteers could not be accepted as a comparable control group for comparison of rates. Reasons for believing this have been presented in the first paper of this series.[1a] These same reasons, now supported by much observed evidence, make it hazardous to compare rates in the uninoculated, "stay-at-home" children and those voluntarily brought to clinics and given gelatin by injection. Similarly, it must be recognized as hazardous to employ the uninoculated group as controls to determine the effectiveness of gamma globulin as a prophylactic agent. Only very gross differences could have significance.

Some of the facts that we determined in our field studies in regard to completeness of diagnosing and reporting and population differences involving exposure, by comparable time periods, are as follows. The level of suspicion and the completeness of diagnosing and reporting of mild paralytic and supposedly nonparalytic cases were lower in the rural areas in Utah, Iowa, and Nebraska. There was no significant rural population in Harris County, Texas, but the distance from the Houston

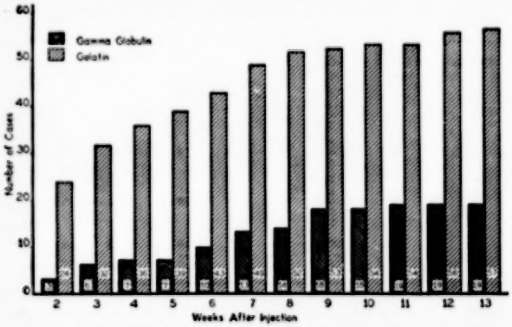


Chart 3.—Cumulative number of cases of paralytic poliomyelitis among children inoculated with gamma globulin or with gelatin, according to weeks after inoculation, beginning with the second week.

medical center may have had a similar influence to that noted for rural areas. Throughout Harris County, Texas, reporting of cases among uninoculated children was obviously incomplete. Representatives of the team had no opportunity to discuss the plan of the study at a meeting of the county medical society, and probably for this reason many physicians failed to comprehend that the team had any interest in noninoculated children. Reporting of cases to the health department was opposed by many parents, due to the front page tabulation of names of patients, families, and addresses by two of the local newspapers. In many families this became well recognized as resulting in great hardship and annoyance during a period of grief and fear. Telephone calls by friends and "cranks" frequently required full time attention. Physicians, in order to cooperate with the research project, frequently reported cases or suspect cases among inoculated children to the team's office directly, sometimes indicating that the case would not be officially reported and at other times giving information only after extracting a promise that the research group would keep it confidential. On the other hand, not a single case among uninoculated children was reported to the team's office under similar conditions. Providing injections per se had no effect, higher rates therefore would be expected in children who received gamma globulin or gelatin.

Although county boundaries were the limits set, no clinics were held in rural areas and a much lower proportion of the rural population was observed to attend clinics. Estimates based on addresses on record cards in Iowa and Nebraska suggested that up to 90% of the urban population of the study age group received injections and only 10 to 20% of the rural population, some of whom lived 75 miles from the nearest clinic. Convincing evidence of heavier urban attendance at clinics was obtained later. In Iowa, for example, although essentially equal numbers of cases from urban and rural areas occurred in uninoculated children following closing of the clinics, 40 cases occurred in urban children while only 2 occurred in rural children who were given gelatin. Therefore, equal proportions of urban and rural populations were not represented in the groups of children who received injections. Chart 1 and table 2 for the Iowa-Nebraska area show that over-all rural and urban rates were significantly different both quantitatively and in time relationships, in the period just after clinics were held. The rural rate rose during a week when the urban rate fell precipitously. All these factors would render comparison of rates unsatisfactory between children who received injections and children who did not.

A fundamental difference in possible exposure for the inoculated and uninoculated children cannot be overlooked. Children attending clinics, though partially guarded against exposure to infection by clinic arrangements, had potential exposure to a large group of strange children that others not attending the clinics certainly did not have. The exact effect of this, if any, cannot be evaluated. Fear due to recent exposure to cases in the neighborhood undoubtedly was a motivating factor in bringing many to the clinics. Still other expected differences probably affected these two populations, but these have been pointed out previously.[1a]

In summary, it is readily apparent that there were important differences between the group that received injections and the group that did not in level of case detection, in case reporting, in proportions of children injected in urban and rural areas, and in the course of the epidemics in these two types of areas. These factors, with the addition of possibly increased risk of exposure at the clinics and neighborhood exposure motivating clinic attendance, would invalidate any direct comparison of the rates observed in the uninoculated group with rates in either of the injected groups. But, since this comparison is necessary to answer the question regarding possible precipitation of paralytic poliomyelitis by gelatin injection, some means to determine the extent of the more important differences must be attempted.

The differences in the level of case detection and in case reporting between the group that received injections and the group that did not would appear to be the most

important factors influencing the rate in these groups. Both would lower the rate in the uninoculated group and can be considered together as under-reporting. Evidence of the importance of under-reporting is obtained from a comparison of grading and scoring of cases in the group that received gelatin and the uninoculated group, not only for Texas, where the effect was most marked, but for other areas as well. These differences are shown in tables 5 and 6. In table 5, for example, it may be observed that, on the basis of severity gradings, the uninoculated children had a severer form of disease. In table 6, it may be noted by comparing muscle involvement scores that in the gelatin group 68.5% had a score of less than 40, while only 44.6% fell in this low range in the reported cases of paralytic disease from the uninoculated group. These differences are highly significant and must be interpreted to indicate either that mild cases among children who did not receive injections were less well reported or that the injection of gelatin tended to reduce the severity of the disease. All evidence supports the former explanation.

In an attempt to measure the degree of under-reporting and to estimate the actual number of cases in the uninoculated group, data from table 6 were employed. If one makes the reasonable assumption that reporting was equally complete for all cases in which there was a muscle score of 200 or more and for fatal cases (5 in the gelatin group and 22 in the uninoculated group) and adjusts all other cases in the uninoculated group, by each severity grouping, to this same ratio, one obtains a rough estimate of the probable number of cases in the uninoculated group. The total of 121 cases in this group in tables 5 and 6 would be increased to 209. Including the cases lost to the study before the 60 day muscle grading, the total would be 219 cases. For all areas combined, case reporting is thus estimated to be 58% as complete for the uninoculated as for the inoculated.

In conclusion, it appears that morbidity rates for either group that received injections should not be compared with rates in the uninoculated group. If they are compared, erroneous impressions will result unless it is kept in mind that only strikingly large differences can be considered significant and that most factors that can be appreciated would tend to lower reported morbidity rates in the uninoculated group.

Comparison of Gamma Globulin Group with Uninoculated Group.—With these reservations in mind, the rates in the children receiving gamma globulin can be compared with those in the uninoculated children. Table 7 has been prepared, in part, for this purpose. No correction has been made for under-reporting. It will be noted that the observed rates in the gamma globulin and uninoculated groups, by area, for the total period of observation are as follows: for Utah, 0.350 and 1.765 per 1,000 respectively; for Texas, 0.604 and 0.840; and for Iowa-Nebraska, 1.765 and 5.303. The difference in the Iowa-Nebraska area, based on 14 and 39 cases, respectively, and approximately equal populations is highly significant. The difference is also significant in Utah but not in Texas. That there is so little difference in Texas is not surprising in view of the probable poor reporting in the group that did not receive injections in this particular area. Therefore, in each area taken separately, by comparing rates among children inoculated with gamma globulin and children who did not receive injections of the same age and in the same period of time, gamma globulin appears to have given some protection, though not to a statistically significant degree in Texas.

In comparing the children who received gamma globulin and the children who received gelatin from the data of table 3, in order to obtain an over-all significance, the numbers of cases for all three areas were combined and compared. This could be done because, according to the original design of the study, numbers of children in every area were equally divided, half to receive gamma globulin or gelatin. The results from the three areas cannot be simply combined nor the rates added, however, when comparing those who received gamma globulin and those who received neither gamma globulin nor gelatin, for the proportion of the population

TABLE 4.—*Severity of Paralysis in Cases Occurring Within Seven Days of Inoculation with Gamma Globulin or Gelatin, According to Muscle Involvement Score at Sixty Day Muscle Examination*

Inoculum	Days After Injection	No. of Patients: Muscle Involvement Score * 0	1-9	10-19	20-29	30-39	40-59	60-79	80-99	100+	Total
Gamma globulin	1	1	1	..	..	..	..	..	..	..	2
	2	1	..	..	..	..	..	..	..	..	1
	3	..	1	..	..	..	..	..	..	..	1
	4	..	1	..	1†	..	..	..	..	..	2
	5	1	..	2	..	..	..	..	..	..	3
	6	1	..	..	..	..	..	..	..	..	1
	7	2	..	..	..	..	..	..	..	..	2
Total		6	3	2	1	..	..	..	..	..	12
Gelatin	1	..	1	1	..	..	..	..	..	..	2
	2	..	..	..	..	..	..	..	..	..	0
	3	..	1	1	..	..	..	..	..	..	2
	4	..	1	1	1	..	..	..	..	..	3
	5	1	1	..	..	..	..	..	..	..	2
	6	..	1	1	1	..	..	1	1	..	5
	7	..	2	..	..	..	..	..	..	..	2
Total		1	7	4	2	0	0	1	1	0	16

* An approximation of the proportionate residual muscle impairment 60 days after onset, based on the sum of the products of the degree of involvement (0 through 5) of individual muscles and a factor representing the mass of the muscle. 0 represents complete recovery with no detectable residual paralysis. The maximum possible score is 560.

† This patient had a score of 27.85. The prognosis for full recovery was excellent, and even at the time of grading the child was only slightly handicapped.

represented in these two groups differs in each of the three areas. Morbidity rates also differ markedly between areas. If these rates should be combined, a distorted comparison would be obtained. By applying a procedure of adjustment commonly applied for standardizing rates to a uniform distribution of population, a much truer combined rate is obtained. Thus, rates have been adjusted, using the population given gamma globulin or gelatin, by area, as the standard population, since these two are equal. This population for each inoculated group is also essentially equal to the uninoculated group in Iowa (7,934 and 7,355). Actually, therefore, only two populations needed significant adjustment. This was the determining factor in the selection of the standard population.

The direct method of standardization of rates was employed. The actual observed rate in each area was applied to the standard population, and the expected

numbers of cases so obtained were then added. This total expected number of cases was divided by the total standard population to obtain a standardized rate. The method employed can be readily followed as applied to the first two weeks in the group that did not receive injections in table 7.

The standardized rate for the group that did not receive injections for the total period (table 7, lower line, right hand column) is 2.23, and the observed rate for gamma globulin in the same population is 0.914. The difference is highly significant, although in calculation of the chi square, the smaller number of cases and population was used for the "uninoculated" ($\chi^2 = 14.8$; $p < 0.001$). Differences are significant also for the first two weeks alone ($\chi^2 = 7.64$; $p < 0.01$) and for the third and fourth weeks after injection ($\chi^2 = 7.63$; $p < 0.01$). These differences, as might be expected from the facts detailed above, are not as highly significant as those obtained when the group injected with gamma globulin is compared to the scientifically selected control group receiving gelatin, which consisted of a comparable population with equal follow-up and reporting. But, despite this handicap, the differences are very large. It is concluded, therefore, that the degree of protection obtained through the use of gamma globulin was so great that it has significance even without resorting to comparison with the inoculated control group. Were the number of cases smaller or the protection less marked, no such conclusion would be tenable.

Table 5.—*Severity of Paralysis at Sixty Day Muscle Examination in Children of the Same Age Who Received Gamma Globulin, Gelatin, or No Injection, According to Muscle Involvement Grade*

Inoculum	Grade of Paralysis*	Onset, Wk. After Injection †: 1-2 No. of Patients	1-2 %	3-14 No. of Patients	3-14 %	Total Period No. of Patients	Total Period %	Group Totals No. of Patients	Group Totals %
Gamma Globulin	1	7	46.7	1	6.3	8	23.8		
	2A	6	40.0	4	25.0	10	32.3	18	58.1
	2B	0	0.0	2	12.5	2	6.4		
	3	2	13.3	9	56.2	11	35.5	13	41.9
Total		15	100	16	100	31	100		
Gelatin	1	5	12.5	4	12.1	9	12.3		
	2A	13	32.5	11	33.4	24	32.9	33	45.2
	2B	6	15.0	8	24.2	14	19.2		
	3	16	40.0	10	30.3	26	35.6	40	54.8
Total		40	100	33	100	73	100		
(Not Inoculated ‡)	1	6	13.6	5	6.5	11	9.1		
	2A	13	29.6	15	19.5	28	23.1	39	32.2
	2B	5	11.4	11	14.3	16	13.2		
	3	20	45.4	46	59.7	66	54.6	82	67.8
Total		44	100	77	100	121	100		

* Grade 1 represents normal muscle power for all muscles tested, grade 2A good to normal muscle power, grade 2B good to normal muscle power generally but one or more muscles having a fair rating, and grade 3 one or more muscles rating no power, trace, or poor or a number of muscles rating fair. Patients with fatal disease are tabulated with those having grade 3 paralysis.

† For the group not receiving injections this represents number of weeks after closing of inoculation clinics.

‡ This does not include six patients lost to study before the 60 day muscle examination.

Gelatin Group Compared with Uninoculated.—Although the next question now needs no answer for this analysis, since the effectiveness of gamma globulin was so marked that inoculated controls could be disregarded, the matter of provoking paralysis by inoculation has more than academic interest. It should be recognized, however, that if the effect was a minor one, as demonstrated for certain other types of inoculations, or if there was no effect, as originally predicted, the numbers involved here are probably not large enough to give a definite answer.

In other studies of poliomyelitis induced by inoculation, the most conspicuous finding was localization in the upper limbs, where immunizing injections are usually given, at some time within 30 days before onset of poliomyelitis. Table 8 presents data tabulated for analysis of this factor by two consecutive two week periods following injection. The carefully prepared, objective records of all 60 day muscle examinations were examined for detectable residual weakness in the hip muscles, since the injections were made in this group of muscles. Uninoculated children and those receiving gelatin in the right hip are tabulated for comparison. These data gave no indication of localization either in the right hip or in either or both hips. The right hip was involved more frequently than the left in both the group that received injections and the group that did not, but the differences are not significant. The data were analyzed in a similar manner for involvement of any muscle in the whole leg.

Table 6.—*Severity of Paralysis in Children Who Received Gamma Globulin, Gelatin, or No Injection, According to Time of Onset After Inoculation and Muscle Involvement Score at Sixty Day Muscle Examination*

Inoculum	Onset, Wk. After Injection*	No. of Patients: Muscle Involvement Score† 0	1-19	20-39	40-99	100-199	200-399	400+	Fatal Cases	Total
Gamma Globulin	1	6	5	1	..	..	..	..	..	12
	2	..	1	..	1	..	1	..	..	3
	3	..	2	..	1	..	..	..	..	3
	4	..	..	..	..	1	..	..	..	1
	5	..	..	..	..	..	..	..	..	0
	6	..	3	..	..	..	..	..	..	3
	7	1	1	..	..	..	..	1	..	3
	8	..	..	1	..	..	..	..	..	1
	9-14	..	2	1	..	1	..	..	1	5
Total		7	14	3	2	2	1	1	1	31
		77.4%			22.6%					
Gelatin	1	1	11	2	2	..	..	..	..	16
	2	4	3	5	5	3	2	2	..	24
	3	1	2	2	2	..	..	..	..	8
	4	..	2	..	1	..	..	..	1	4
	5	1	..	2	..	..	..	..	..	3
	6	1	2	1	..	..	..	..	..	4
	7	..	2	..	2	2	..	..	..	6
	8	..	3	..	..	..	..	..	..	3
	9-14	..	1	4	..	..	..	..	..	5
Total		8	26	16	10	5	2	2	1	73
		68.5%			31.5%					
(Not Inoculated ‡)	1	4	8	4	3	2	2	..	..	23
	2	2	6	2	3	4	4	..	1	22
	3	1	2	1	2	4	1	..	1	12
	4	..	6	3	2	2	5	..	..	18
	5	1	1	1	3	2	..	..	..	8
	6	..	2	1	5	2	1	..	..	11
	7	..	2	1	..	1	1	..	1	6
	8	1	..	..	2	..	..	..	1	4
	9-14	2	2	1	5	3	3	1	..	17
Total		11	29	14	25	20	17	1	4	121
		44.6%			55.4%					

* For the group not receiving injections this represents number of weeks after closing of inoculation clinics.

† See footnote to table 4 for method of scoring muscle involvement.

‡ This does not include six patients lost to study before the 60 day muscle examination.

and essentially similar results were obtained. The records were also analyzed for the first muscle group involved and for the most severely involved muscle. A third of the cases could not be classified on this basis because of insufficient or questionable accuracy of data obtained by history before examination, or multiplicity of muscle groups with equal paralysis. The remaining cases are too few in number to have any statistical significance, but do not suggest selective right hip involvement. We conclude, therefore, that data from this study do not indicate that localization of paralysis occurred due to inoculation of gelatin within four weeks before onset of disease. Neither could evidence be obtained to suggest localization after any greater interval. This, we believe is the most reliable type of evidence that can be drawn from this study on the question of possible precipitation of paralysis by gelatin, for it does not involve any comparison of rates but does examine the most conspicuous change noted in other studies, namely, localization.

In respect to rates (table 7), the degree of increased incidence, by area, where it does appear to occur, is approximately that which might be expected as a result of poorer reporting in the uninoculated groups. In small groups variance occurs in one direction or the other as expected from chance distribution of small numbers. The largest apparent difference occurs in Texas, as would be expected from the poorer reporting in that area, and parallels the observations made when comparison is made of the group inoculated with gamma globulin with the uninoculated group. In the first two weeks, the difference appears relatively large, a rate of 0.724 per 1,000 for the gelatin-inoculated group and 0.287 for the uninoculated, but we believe that in view of the known difference in completeness of reporting, this apparent difference should be discounted. In fact, if we correct for 58% less complete reporting, as estimated above for all combined areas, a figure probably still too small for Texas, the rate for the uninoculated group becomes 0.497 and the difference has no significance. It will be recalled that in Texas the rates in the group that received gamma globulin and the group that received no injections were not significantly different, while the differences were highly significant in the other two areas. These two inverse findings may both be explained by one factor, poorer reporting. Furthermore, when one combines the experience of the next two weeks in Texas, even without correcting for under-reporting, the results are not significant ($\chi^2 = 3.29$; $p > 0.05$); when the total period for Texas, is considered, the results are even less significant ($\chi^2 = 1.27$; $p > 0.2$). When this total rate for Texas is corrected for under-reporting, the apparent difference is in the other direction. This shift with time can be logically explained as due to probable increased cooperation in reporting cases in the groups that did not receive injections, for when poor reporting was recognized soon after the close of the clinics, a combined meeting of the pediatric and internal medicine societies was held so the difficulty could be explained. In addition, a letter explaining the need for more complete reporting of this group was sent to every member of the county medical society and to all other listed physicians and osteopathic practitioners.

TABLE 7.—*Paralytic Cases and Adjusted Paralytic Case Rates Among Children of Similar Age Groups Who Received Gamma Globulin, Gelatin, or No Injection, According to Time of Onset After Closing of Clinics*

Weeks After Closing of Clinics	Area	Inoculated: Gelatin — No. of Cases	Gelatin — Population	Gelatin — Rate/1,000	Inoculated: Gamma Globulin — No. of Cases	Gamma Globulin — Population	Gamma Globulin — Rate/1,000	Not Inoculated — No. of Cases	Not Inoculated — Population	Not Inoculated — Rate/1,000	Not Inoculated — Standard Population*	Not Inoculated — Expected Cases	Not Inoculated — Adjusted Total Rate/1,000
1-2	Utah	2	2,869	0.699	0	2,869	0	1	6,800	0.147	2,869	0.42	.....
	Texas	12	16,568	0.724	2	16,568	0.121	26	90,446	0.287	16,568	4.76	.....
	Iowa	25	7,034	3.151	8	7,034	1.008	20	7,355	2.719	7,034	21.57	.....
	Total	39	27,302	1.425	10	27,302	0.365	47	104,601	.....	27,302	26.75	0.978
3-4	Utah	0	.....	0	0	.....	0	3	.....	0.441	.....	1.26	.....
	Texas	2	.....	0.121	3	.....	0.181	18	.....	0.199	.....	3.30	.....
	Iowa	6	.....	0.736	0	.....	0	9	.....	1.22	.....	9.68	.....
	Total	8	.....	0.292	3	.....	0.109	30	.....	.....	.....	14.24	0.520
5-6	Utah	1	.....	0.350	1	.....	0.350	3	.....	0.441	.....	1.26	.....
	Texas	2	.....	0.121	3	.....	0.181	11	.....	0.122	.....	2.02	.....
	Iowa	8	.....	1.008	2	.....	0.252	6	.....	0.816	.....	6.47	.....
	Total	11	.....	0.402	6	.....	0.219	20	.....	.....	.....	9.75	0.356
7-8	Utah	0	.....	0	0	.....	0	2	.....	0.294	.....	0.84	.....
	Texas	2	.....	0.121	0	.....	0	8	.....	0.088	.....	1.46	.....
	Iowa	1	.....	0.126	2	.....	0.252	3	.....	0.408	.....	3.24	.....
	Total	3	.....	0.110	2	.....	0.073	13	.....	.....	.....	5.54	0.202
9-14	Utah	2	.....	0.699	0	.....	0	3	.....	0.441	.....	1.26	.....
	Texas	1	.....	0.060	2	.....	0.121	13	.....	0.144	.....	2.39	.....
	Iowa	2	.....	0.252	2	.....	0.252	1	.....	0.136	.....	1.08	.....
	Total	5	.....	0.183	4	.....	0.146	17	.....	.....	.....	4.73	0.173
Total	Utah	5	.....	1.748	1	.....	0.350	12	.....	1.765	.....	5.05	.....
	Texas	19	.....	1.147	10	.....	0.604	76	.....	0.840	.....	13.92	.....
	Iowa	42	.....	5.294	14	.....	1.765	39	.....	5.303	.....	42.07	.....
	Total	66†	.....	2.412	25†	.....	0.914	127†	.....	.....	.....	61.04	2.230

* Standard population is that of either the gamma globulin-inoculated group or the gelatin-inoculated group.
† These totals do not agree with those of other tables for total outbreak, since these totals exclude cases occurring during the period when clinic injections were given. This table includes cases not classified by degree of paralysis and not included in tables 5 and 6.

In Utah, the difference in rates in the first two weeks between the uninoculated and those receiving gelatin appears at first even more striking than that observed in Texas, but these rates are based on a total of only three cases in the two combined groups. Thus, they have no validity. In no other area, for any period of time or for the total period of time, is there any significant difference in rates between the uninoculated group and that receiving gelatin, even without correction for underreporting.

When an adjusted standardized rate is calculated so the three areas can be combined for study (table 7), there is again no significant difference between the two groups, even without correction. Following correction, the direction of the difference is reversed.

We conclude, therefore, that in this study there is no evidence to indicate that injection with gelatin during a poliomyelitis epidemic either localizes paralysis or increases the incidence of the paralytic disease. If gelatin has any such action, the effect is too small to be measured in a study of this size and conducted in this manner. On the other hand, it is not possible to establish that no precipitating effect of any slight degree has occurred, but we observe nothing that strongly suggests that this occurred. In any case, such a possible precipitating effect by gelatin, if present at all, is too small to be measured, so would not significantly reduce the value of the group of children injected with gelatin to serve as controls for the children inoculated with gamma globulin.

TABLE 8.—*Comparative Distribution of Hip Muscle Paralysis at Sixty Day Muscle Examination in Children of Similar Age Groups with Residual Paralysis Who Received Gelatin or No Injection*

	Gelatin-Inoculated *						Not Inoculated †					
	1st Period		2nd Period		1st & 2nd Periods		1st Period		2nd Period		1st & 2nd Periods	
Location of Paralysis	No. of Patients	%	No. of Patients	%	No. of Patients	%	No. of Patients	%	No. of Patients	%	No. of Patients	%
In right hip	22	62.86	4	40.00	26	57.78	39	62.90	17	58.62	56	61.54
Right hip not involved	13	37.14	6	60.00	19	42.22	23	37.10	12	41.38	35	38.46
Total	35	100	10	100	45	100	62	100	29	100	91	100
In right hip but not in left	11	31.43	2	20.00	13	28.89	16	25.80	6	20.69	22	24.18
In left hip but not in right	4	11.43	2	20.00	6	13.33	12	19.36	6	20.69	18	19.78
No hip involvement	9	25.71	4	40.00	13	28.89	11	17.74	6	20.69	17	18.68
In both hips	11	31.43	2	20.00	13	28.89	23	37.10	11	37.93	34	37.36
Right hip involvement severer than left	4		1		5		5		3		8	
Left hip involvement severer than right	4		1		5		6		4		10	
Left and right hips involved equally	3		0		3		12		4		16	
Total	35	100	10	100	45	100	62	100	29	100	91	100

* First period: the first two weeks following actual day of injection; second period: the next two weeks after the first period.
† First period: the week the clinics opened plus the next two weeks; second period: the next two weeks after the first period.

COMMENT

Advantages and Disadvantages.—In considering the usefulness of gamma globulin based on the present evidence of its value, the relative advantages must be balanced against the relative disadvantages. In some time in the future these then must be weighed in conjunction with developing methods of active immunization. The prevention of death and permanent crippling are not calculable in terms of dollars and cents; these are advantages of incalculable value and to the individual family are essential and vital considerations.

If measles or epidemic hepatitis had such a low rate of overt cases as poliomyelitis, it is entirely possible that gamma globulin would be little, if at all, used in such diseases. It is only the occasional occurrence of permanent crippling—even to the extent of life in a respirator—or death in poliomyelitis that may justify the injection of gamma globulin into a child population in which the individual members ordinarily without such injection would have at least a 200 to one chance of not having the paralytic form of the disease.

In order to protect possibly one or two persons from paralytic disease per thousand of the population that receives injections, the cost of processing the globulin alone amounts to a staggering sum. In the present study, with the calculated number of about 42 paralytic cases prevented by the globulin, only 8 of these could be assigned to the Houston study. The cost of the globulin used there at $2.00 per ml[1]liter (wholesale commercial rate) was approximately $224,000.00, or $28,000.00 for each of the eight paralytic cases prevented. In the severer outbreak at Sioux City, the cost of the globulin used in the 1 to 11 year age group would come to $112,000.00, or $3,733.33 for each of the calculated 30 paralytic cases prevented. Even in Houston the morbidity rate of approximately 82 per 100,000 population is well above the rate that is encountered in the average poliomyelitis epidemic. Lower morbidity rates in the community would mean even a higher degree of inefficiency in prophylaxis.

The use of gamma globulin is certainly not a panacea for the prevention of paralytic poliomyelitis. In addition to problems of supply and expense, other drawbacks and disadvantages are numerous. Among these are the short duration of passive protection; the need for reinjection each time poliomyelitis becomes prevalent in the community; the extremely low incidence of paralytic poliomyelitis; the inability to determine the time of exposure and hence the optimal time to use gamma globulin; the fact that susceptible children who need protection cannot be distinguished from the immune children; the protection is not always complete; and hyper-

sensitization may occur.[3] In any disease with less emotional appeal than poliomyelitis, all these considerations would probably restrict or even prohibit its use, except in very selected instances. In poliomyelitis, however, it will be demanded and will be used. During the next year or two, by using one or more millions of doses, a relatively small number of cases of paralytic poliomyelitis may be expected to be prevented.

Gamma globulin will be used at present not because it is a satisfactory method of poliomyelitis control but because it is the only preventive agent available in even modest quantity. It must be obvious, however, that a vaccine that can be given to small infants in a methodical way during nonepidemic seasons and confer more or less permanent immunity is much to be desired, and that when such a vaccine is available, it will largely replace gamma globulin. Even vaccination, however, will have to be practiced on an extensive scale to attain notable effects in a disease with such low morbidity rates. Several of the disadvantages listed above will apply equally well to a vaccine. Greater duration of protection will be the basis for its one chief advantage.

Perhaps the greatest contribution of the gamma globulin field trials is the impact it has on the status of active immunization through use of a vaccine. In these gamma globulin studies it has been demonstrated that a very low concentration of antibodies will protect man. That such a low level would protect was almost completely disbelieved by a large proportion of workers in the field previous to the beginning of the human tests, and it had no support from work with experimental animals. Such support from animal experiments came concurrently with or followed the encouraging results obtained in the Utah studies. These were reviewed previously.[1b] In any case, evidence from animals required confirmation in man.

Many of the experimental vaccines used in recent years stimulate in animals the production of more than the amount of antibody now recognized as necessary for protection of man, and it remains only to ensure that the same occurs in a small number of children and that the vaccine is free from possible harmful effects before it can be recommended for general use. The latter problem will be the most time-consuming. Since antibody levels need not be as high as previously expected, quantities of virus needed in a killed vaccine may be expected to be correspondingly much less. Thus, the quantitative aspects of the vaccine problem become less difficult. Completion of a field test with controls to demonstrate that a minimal antibody level from injection of gamma globulin conferred immediate protection during an epidemic has established what might have required years of much more extensive testing to prove with a vaccine, for vaccination must be done before the beginning of possible epidemics. In any single area selected to test the efficacy of a vaccine, an epidemic might not occur for several years, and so, vaccination, with controls, on a vast scale would have to be done in a large number of areas to ensure a quick test of its protective value against poliomyelitis under conditions of natural exposure in the field. These facts related to the possibilities of active immunization, we believe, are the chief advantages gained from the current gamma globulin findings, rather than the value of their immediate application in passive prophylaxis, as described next.

If it is accepted as proved that gamma globulin will protect under the conditions of the field test, many questions arise regarding the immediate application of this knowledge in the practice of preventive medicine. Specifically, it should be determined how the experimental findings can be interpreted for practical application during the coming poliomyelitis season.

Supply and Allocation in the United States.—Owing to its previous role in the allocation of blood and blood products, the Office of Defense Mobilization has been given the authority to allocate available supplies. These will be far short of the expected demand. Since gamma globulin has been previously shown to be a valuable agent in the control of measles and infectious hepatitis in specific situations, provision has been made to reserve an adequate quantity for these needs.

A committee of the National Research Council is advising the Office of Defense Mobilization regarding allocation and recommended uses. A comprehension of the research data presented here should help the practicing physician to understand the scientific and administrative bases for these recommendations, help him to use the material in the most effective manner, and help him to keep such records as will be of greatest value in learning how it can be used more effectively.

Dosage.—The dose used in the field test was approximately 0.14 cc. per pound of body weight in the field tests, and this dose gave protection for from five to eight weeks. Blood antibody levels in children fall 50% in about three weeks. Doubling the dose would extend the time only about three weeks. If longer protection is needed, it would be more saving, therefore, to give the same dose after about five weeks, thus getting protection for a total period of 10 to 13 weeks. If a known exposure over a period of only a few days occurred, as is generally the case in measles, a dose of gamma globulin similar to that given to prevent measles might be effective. Rarely, however, is such exposure recognized for poliomyelitis, so a dose giving a longer period of protection appears indicated. The dose originally selected empirically—0.14 cc. per pound of body weight—seems to be a reasonable and practical one.

There is well established experimental evidence that even very much larger doses will not effect the course of the disease if given after the onset of symptoms, even when given in the preparalytic phase.[4] It can hardly be over-emphasized, therefore, that this scarce material must not be wasted in the treatment of poliomyelitis by giving it to the children who are already sick.

Method of Administration.—Gamma globulin should be given intramuscularly and never intravenously. A separate heat-sterilized syringe and needle should be used for each child, since attempted withdrawal of blood before giving an intramuscular injection is likely to con-

3. Hypersensitization to gamma globulin has occasionally been noted in adults following repeated injections for the prevention of epidemic hepatitis. In more highly allergic persons local or general reactions may be increased by repeated injection—a disadvantage that could become serious, even endangering life, if, by mischance the globulin entered a vein during injection. Stokes, J., Jr.: Unpublished data.

4. Bahlke, A. M., and Perkins, J. E.: Treatment of Preparalytic Poliomyelitis with Gamma Globulin, J. A. M. A. **129**:1146-1150 (Dec. 22) 1945.

taminate the syringe with homologous serum jaundice virus if the person who receives the injection is a carrier.

For rapid, easy, and safer injection of this highly viscous product, any amount over 5 cc. is injected preferably through an 18 gage needle, 1½ to 2 in. (3.8 to 5.1 cm.) in length. A 1½ inch, 20 gage needle is adequate for smaller children receiving 5 cc. or less.

Certain Indications for Use.—In extremely severe epidemic areas mass immunization of all children in the age group expected to provide 50 to 60% of all cases has more direct experimental support for effectiveness than any other method. In our experience, the most select age groups would have been 1 to 6 years in Houston, 2 to 7 in Utah, and 1 to 10 in Iowa. While gamma globulin is in such short supply, use under these very restricted conditions would appear to be one of the ways by which the available amount would prevent the largest number of cases. With the agent in such limited supply, however, mass prophylaxis cannot be recommended under conditions less severe than those encountered in the Utah and Iowa-Nebraska tests, where the total annual morbidity rates were from 160 to 427 per 100,000 for all ages. Such rates, it should be recalled, almost never occur in large cities. While the supply is limited, we would not recommend its use in a situation like that met in Houston, Texas, although the annual rate there was the highest on record for that city and county (82 per 100,000) and is an exceptional rate for any large city. One disadvantage, in addition to a relatively low rate, would be the duration of the outbreak. Repeated inoculations would be required for each child, and almost all of the supply available for the whole nation would be required for this one area. Even though the test in Houston was carried out near the ideal time for greatest effect, approximately 16,000 injections of gamma globulin appear to have prevented only 8 cases. The prevention rate was, therefore, 1 case for 2,000 prophylactic injections. In Iowa, 30 cases were prevented by about 8,000 injections, or 1 case prevented for each 250 to 300 injections. Thus, when used under the most ideal circumstances imaginable, hundreds or even thousands of doses must be given to protect one child for about five weeks. While our studies were carried out in two very severe epidemics and in a third that had unusually high rates for a large city, it is unlikely that similar situations could be selected with any predictable regularity.

Bloxsom [5] described the use of gamma globulin in persons who had had contact with patients with recognized poliomyelitis, although evaluation of the results was uncertain. Many other physicians have been using the method for several years. It must be recognized, however, that the diagnosis of the index case in the family is not usually made in less than four or five days after the onset; also, that only about 5% of families with one case have two or more cases. From our unpublished epidemiological data of family studies combined with the reports of Lavinder and co-workers [6] and of Wickman,[7] making it possible to consider together approximately 10,000 families in each of which a case occurred, it is observed that by the time the index case is diagnosed about 60% of all persons in the families who will have the disease will already have become ill. If other members of the family remaining well at this time, including children, pregnant women and even other young adults, were given gamma globulin, a significant number of cases expected to occur in the next seven days should be modified or possibly prevented. Beginning seven days after injection, a very marked reduction in expected incidence should occur; however, during this latter period of time only 10% of all secondary family cases are expected to occur. Nevertheless, the morbidity rate in this late group of secondary cases in families is as high or higher than that expected in other children in the population, during even very severe epidemics. Used thus, in families of diagnosed cases, gamma globulin should prevent more disease and disability per thousand units employed than if given on a mass basis in most areas where epidemics occur. In communities with epidemic rates of 150 to 500 per 100,000, however, this method might protect no more persons per thousand doses administered than if given to all children of a selected age group.

In areas where severe epidemics are occurring and supplies are more than adequate for contacts of cases but inadequate for immunization of all children of the most susceptible ages, a compromise might be considered. There is a possibility that suspect cases, rather than confirmed cases, would serve as guides to some of the persons most likely to have been very recently exposed or currently undergoing exposure. Injection of these children might have a selective advantage, but even if not, the method would certainly appear to be as effective (based on cases prevented to thousand injections given) as giving injections to all children. Any possible advantage of this method would apply especially during severe epidemics. This last method could be subject to serious abuse or misuse.

Until further research data on the effectiveness of gamma globulin under a variety of conditions become available, and until further specific knowledge of the epidemiology and pathogenesis of the virus is at hand, it is very difficult to evaluate these different methods of use except where extreme differences are concerned. Administrative necessity may have to serve as a deciding criterion where science cannot furnish the answer at present.

SUMMARY

Red Cross gamma globulin, in an average dose of 0.14 cc. per pound of body weight, in controlled field tests in three epidemic areas was shown to give highly significant protection against paralytic poliomyelitis. These conclusions are based on 104 cases of paralytic disease occurring among approximately 55,000 children, half of whom received gamma globulin and half gelatin. The period of follow-up was 14 weeks. Cases occurring during the first week following the injection of gamma globulin were significantly modified in severity. During the next period of four weeks a high but not complete degree of protection was demonstrated. During the sixth to the eighth week after injection the protection appeared

5. Bloxsom, A.: Use of Immune Serum Globulin (Human) as Prophylaxis against Poliomyelitis, Texas State J. Med. 45: 468-470 (July) 1949.

6. Lavinder, C. H.; Freeman, A. W., and Frost, W. H.: Epidemiologic Studies of Poliomyelitis in New York City and the Northeastern United States During the Year 1916, Pub. Health Bull., No. 91, July, 1918.

7. Wickman, I.: Quoted by Lavinder, Freeman, and Frost.[6]

to be waning, and none was detectable after the eighth week.

To substantiate the validity of the controls, data were examined to determine whether there was any evidence to suggest that inoculations of gelatin had localized or provoked paralysis. No such evidence was found. In fact, when the combined results in all areas were examined, protection by gamma globulin was so marked, the extent of the study sufficiently large, and the epidemics selected of such major proportions that controls who also received injections were not essential to demonstrate simple protection.

These findings on passive prophylaxis are discussed in relation to their impact on developments in the field of active immunization. This appears to be where their principal value lies, for there are many limitations and disadvantages in the practical application of extensive passive prophylaxis.

Inasmuch as gamma globulin is the only agent that has been demonstrated to be safe and effective in the prevention of poliomyelitis, recommendations are offered regarding dosage and methods of administration. In view of the current limitation of supply several possible means of using gamma globulin on a family and community basis are presented. Limitations in knowledge restrict the scope of sound recommendations to a few broad categories covering widely divergent conditions.

CLINICAL NOTES

AUSCULTATION OF BRONCHIAL ASTHMA PATIENTS

M. J. Gutmann, M.D., Jerusalem, Israel

As a rule auscultation in cases of bronchial asthma does not present any particular difficulty, there being a prolonged expiration with normal inspiration heard uniformly over all parts of the lungs, as stated by the classical school. Actually, however, there is "prolongation of both phases of the respiratory cycle and in particular that of the expiratory phase is noteworthy."[1] The typical musical rales, sibilant and sonorous, are more accentuated during expiration and frequently altogether inaudible during inspiration. As to the differentiation from other pathological conditions causative of prolonged expiration, diagnosis will depend on the character of the breath sounds. Thus, as R. A. Cooke [2] justly states, "The diagnosis of asthma during the active stage is not as a rule very hard to make but the diagnosis of the existence of the asthmatic state or asthmatic predisposition is by no means easy. The necessity for some measure of diagnostic technic is becoming more and more evident." In reference to screening for the military forces, Cooke points out that attention to these points would have helped to exclude many who were accepted and became serious liabilities. It is, however, not for the selection of the armed forces alone that these observations are relevant; the same problem arises when considering candidates for life insurance and sick funds, applicants for sick support, holders of social insurance, recipients of retirement pay, persons demanding advice in their choice of profession, or those requiring health certificates for marriage.

Physicians are concerned, therefore, not merely with establishing the existence of the pathological condition in a certain patient but with ascertaining that this condition no longer prevails. Therefore, they must consider the sites of residual evidence of the disease. In cases like these I auscultate the supraclavicular fossa, and particularly the angle between the clavicle and the medial head of the sternocleidomastoid muscle at the manubrium sterni; there the last residual evidence of expiratory prolongation and abnormal breath sounds can be detected. For this reason I have designated this point in my records as A.A.P. (asthma auscultation point) (see figure).

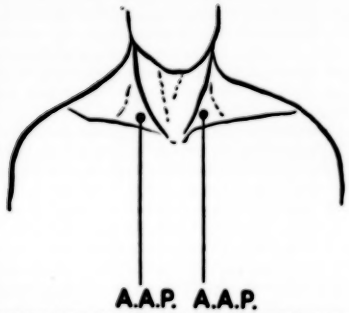
My teacher and former chief, Friedrich von Müller,[3] a master of the methods of physical diagnosis, always pointed out that even in the normal lung, the expiratory phase was frequently heard longer, louder, and higher pitched over the right apex than over the left one, a fact for which due allowance must be made and which has long since become part of the routine knowledge. But residual abnormal breath sounds and prolonged expiration can also be heard over this spot on the left side in postasthmatic conditions.

The problem of prolonged expiration was discussed by W. Neumann.[4] One should be careful not to draw important conclusions from the existence of prolonged expiration over the right apex alone, which Landis and Leopold [5] term the storm center of the lungs. Neumann mentioned D. Gerhardt's observation that the right eparterial bronchus as well as its branches taper directly toward the apex of the lung and also that these branches are much wider than the rest. This is corroborated by H. Sahli,[6] who adds that the right primary bronchus takes off at a right angle from the chief bronchus. This statement is contradicted by Norris [7] who says that "the right bronchus is larger, contrary to what is usually taught, it is not more, but less horizontal than the left." Neumann [4] finds that in cases of scoliosis, where, in adapting itself to the concavity of the crooked spine, the bronchial tree is situated in greater proximity to the posterior wall of the thorax, it gives rise to alterations of breath sounds. According to Sahli [6] the prolongation of expiration during bronchitis can be explained by the fact that the swollen mucous membrane represents an obstacle to the stream of escaping air. Moreover, as expiration occurs usually at a lower pressure and is slower than inspiration, it is even more slowed down in the swollen area and produces simultaneously a distinct expiratory stenotic sound.

From the Allergic Diseases Clinic.

1. Tuft, L.: Clinical Allergy, ed. 2, Philadelphia, Lea & Febiger, 1949, p. 338.
2. Cooke, R. A., and others: Allergy in Theory and Practice, Philadelphia, W. B. Saunders Company, 1947, p. 144.
3. Müller, F. V., and Seifert, O.: Taschenbuch der medizinisch-klinischen Diagnostik, ed. 35, München, J. F. Bergmann, 1936.
4. Neumann, W.: Die Klinik der Beginnenden Tuberkulose Erwachsener: I. Der Gangder Untersuchung, Vienna, Rikola Verlag, 1923, p. 162.
5. Landis, H. R. M., and Leopold, S. S., in Norris, G. W., and Landis, H. R. M.: Diseases of the Chest and the Principles of Physical Diagnosis, ed. 6, Philadelphia, W. B. Saunders Company, 1935, p. 424.

The problem of residual asthmatic conditions has not been extensively dealt with in the recent literature, but apart from the references already made I would like to add a few more and make some practical proposals: Derbes and Engelhardt [8] find that both phases of respiration are somewhat prolonged but expiration may be three times as long as inspiration. Although rales are not heard between attacks they may be elicited by one of two techniques: in children musical rales may be heard if the chest is compressed anteroposteriorly; and, according to Clarke,[9] exhaling against pressure such as blowing into a bag or against Wolf's bottles will produce the characteristic sounds. Feinberg [10] says that when no abnormal findings are obtained by the usual examination, a wheezing sound may often be elicited by compressing the chest quickly after a forceful expiration; and Cooke [2] writes that physical examination of the chest during deep inspiration and forcible expiration, especially after severe exertion, may disclose evidence of sibilant sounds if attacks are not recent.



The asthma auscultation point (A.A.P.) in angulus asthmaticus of the supraclavicular fossa.

I should like to add here that at times a short cough followed by immediate deep respirations as used while examining for tuberculosis is sufficient to provoke the asthmatic sounds. This method is also employed by L. Unger [11] who finds "that even during times when the patients say that they are 'fine' the stethoscope will usually reveal some wheezing, especially after a cough or two." Very often, however, it is only by detecting the sounds over the peculiar asthma auscultation point in the supraclavicular fossa that objective proof of past asthmatic disease can be shown.

SUMMARY

A sensitive test for detecting residual signs of asthmatic disease is the auscultation of the supraclavicular fossa in the angle formed by the clavicle and the medial head of the sternocleidomastoid muscle, called angulus asthmaticus. Auscultation of this point often elicits characteristic bronchial asthmatic sounds with prolonged expiration at a time when such sounds are no longer audible over any other portion of the chest. This spot has therefore been designated as the asthma auscultation point (A.A.P.). The peculiarity of the breath sounds in this region, especially on the right side, has been pointed out as well as the clinical significance of this method of examination.

Street of the Prophets, Hassidoff House.

6. Sahli, H.: Lehrbuch der klinischen Untersuchungsmethoden für Studierende und praktische Arzte, ed. 7, Wien, Franz Deuticke, 1928, p. 505.
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8. Derbes, V. J., and Engelhardt, H. T.: The Treatment of Bronchial Asthma, Philadelphia, J. B. Lippincott Company, 1946, p. 140.
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AGRANULOCYTOSIS FOLLOWING PHENYLBUTAZONE THERAPY

REPORT OF A CASE

S. Charles Werblow, M.D.
and
Jacob Neber, M.D., Miami, Fla.

We have recently observed a patient in whom agranulocytosis developed following treatment with the new antirheumatic drug phenylbutazone (butazolidin®). Because of the large number of patients who are potential users of phenylbutazone, it was thought advisable to report this severe toxic reaction as a warning against its indiscriminate use without constant and careful check on the status of the blood.

REPORT OF A CASE

Mrs. B. R., a 65-year-old white housewife, was admitted to Mt. Sinai Hospital on Sept. 24, 1952, complaining of fever, generalized aching pains, and a skin rash that had been present for four days. For the past 12 years she had had chronic rheumatoid arthritis, which had involved most of the joints of her extremities but which was worse in the knees and ankles. During acute exacerbations in the past, she had taken large doses of salicylates in various forms but no other medication. On Sept. 10, 1952, she had an acute flare-up of pain and swelling of both knees and ankles. Phenylbutazone, 600 mg. per day administered orally, was prescribed, and in about 48 hours there was moderate relief of pain. On Sept. 20, 1952, after 10 days of phenylbutazone therapy, fever, headache, generalized aching pains, and a widespread rash developed. The patient took 10 grains (0.65 gm.) of acetylsalicylic acid several times for the pain but continued taking phenylbutazone by mouth. The symptoms increased in severity, and the patient was seen at her home on Sept. 24, 1952. The phenylbutazone therapy was immediately discontinued, and the patient was admitted to the hospital.

She had a history of moderate hypertension for the past 10 years. There was no history of drug or food allergy. Physical examination at the time of her first admission to the hospital revealed an obese, middle-aged woman, who appeared moderately ill and uncomfortable. Her temperature was 101.6 F, pulse rate 100, respiratory rate 20, and blood pressure 162/100. There was a generalized, erythematous, macular eruption over the entire body, which blanched on pressure and was said to be slightly pruritic but not painful. There was no icterus, and no petechiae were noted. There was no lymphadenopathy. The lungs were clear. The heart was noted by percussion to be slightly enlarged to the left, and there was a grade 1 systolic murmur at the apex. The brachial vessels were moderately sclerotic. There was no tenderness or rigidity of the abdomen, and the liver and spleen were not palpable. There was no edema of the lower extremities. Both knees were moderately

From the Department of Internal Medicine and Hematology, Mt. Sinai Hospital, Miami Beach.

swollen, but there was no redness. There was some limitation of motion of the right knee. The ankles and feet showed moderate deformity, compatible with longstanding chronic rheumatoid arthritis. Results of peripheral blood studies the morning after admission were as follows: hemoglobin level 11.4 gm. per 100 cc. (photoelectric colorimeter), red blood cell count 3,750,000 per cubic millimeter, and white blood cell count 5,050 per cubic millimeter; the differential count showed

TABLE 1.—*Peripheral Blood Values Before, During and After Agranulocytic Reaction to Phenylbutazone*

	July 11	Sept. 25	Oct. 9	Oct. 13	Oct. 16	Oct. 21
Hemoglobin, gm. per 100 cc.	14.5	11.4	11.4	10.0	....	14.2
Red blood cell count, × 10^6	4.29	3.75	4.09	3.56	....	4.53
White blood cell count × 10^3	10.4	5.05	2.65	22.3	25.0	12.1
Segmented forms, %	64	70	3	46	69	76
Band forms, %	....	....	14	15	9	3
Metamyelocytes, %	....	....	3	15	3	....
Myelocytes, %	....	....	4	4	2	....
Premyelocytes, %	....	....	....	1	....	....
Myeloblasts, %	....	....	1	2	....	....
Eosinophils, %	2	....	3	....	....	....
Lymphocytes, %	34	27	69	15	16	13
Monocytes, %	....	3	23	2	2	7
Platelets, per cubic millimeter	....	....	670,000	682,500	....	340,500
Reticulocytes, %	....	....	1.6	0.7	....	0.3
Hematocrit, %	....	....	....	33	....	46

70% polymorphonuclear cells, 27% lymphocytes, and 3% monocytes. The platelets were normal on smear. The urine had a specific gravity of 1.018 and showed a trace of albumin.

The patient was treated symptomatically with acetylsalicylic acid and cold applications and improved rapidly. The temperature fluctuated between 100 and 101 F for two days and on the third day returned to normal. The generalized aching pains and headache disappeared. The rash diminished considerably. Although the patient was strongly urged to remain under observation, she insisted on being discharged from the hospital on Sept. 27.

The patient was next seen in the office on Oct. 8, 1952. As instructed, she had taken no medication from the time she had been discharged from the hospital. She appeared acutely ill and complained of sore throat, fever, headaches, and severe weakness, which had been present for the past two

TABLE 2.—*Bone Marrow Differential Cell Counts During and After Agranulocytic Reaction to Phenylbutazone*

	Oct. 9	Oct. 21
Myeloblasts, %	3.2	1.4
Premyelocytes, %	1.2	.6
Myelocytes, %	28.0	9.8
Metamyelocytes, %	11.2	9.2
Band forms, %	4.4	17.4
Segmented forms, %	0.	36.6
Eosinophils, %	2.0	2.2
Basophils, %	0.	2.0
Lymphocytes, %	2.8	4.4
Plasma cells, %	1.2	1.4
Reticulum cells, %	1.6	1.2
Erythrogoniums, %	0.8	1.2
Normoblasts A, %	1.2	2.6
Normoblasts B, %	9.2	3.6
Normoblasts C, %	21.0	8.2

days. There was also considerable pain on swallowing. The patient was immediately readmitted to the hospital. Physical examination at the time of her second admission revealed an acutely ill, prostrated woman in a toxic state. The temperature was 104 F, the pulse rate 108, respiratory rate 28, and blood pressure 150/80. The skin was hot and dry, and a diffuse finely papular reddish eruption was present all over the body. A few minute petechiae were present in the pretibial areas and in the mucosa of the palate beneath the upper dental plate. The tongue was beefy red, and the mucosa of the oropharynx and nasopharynx was diffusely injected and swollen, although no actual ulcerations were visible. There was no icterus of the scleras, and the ocular fundi were normal. There was no significant adenopathy. The lungs were clear. The heart was slightly enlarged to the left, with a regular sinus rhythm and forceful sounds. There was no splenomegaly. The liver edge was palpable 2 cm. below the right costal margin on deep inspiration. There was no costovertebral angle tenderness. The vaginal mucosa was not inflamed. Results of neurological examination were normal. Examination of the urine showed a specific gravity of 1.018 and a trace of albumin. The peripheral blood studies, as indicated in figure 1 and table 1, showed leukopenia and severe granulocytopenia, with a pronounced shift to the left. Platelets were well preserved, and there was a slight reticulocytosis of 1.6%. The nonprotein nitrogen level was 36 mg. per 100 cc., and results of serologic tests for syphilis were negative. Examination of the sternal marrow showed a striking maturation arrest of the granulocytic series at the myelocyte-metamyelocyte levels (table 2). The marrow was normal in cellularity and contained normal numbers of megakaryocytes actively forming platelets. Erythro-

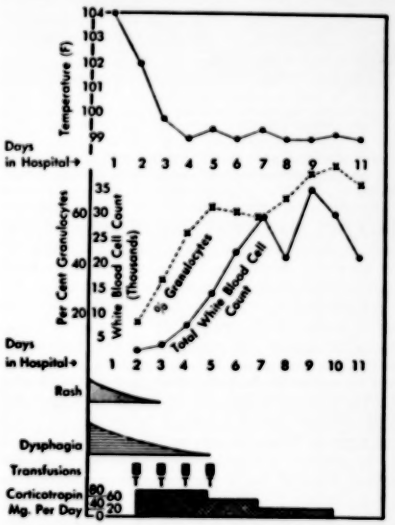


Fig. 1.—Clinical course of patient B. R., showing occurrence of agranulocytosis following phenylbutazone therapy.

poiesis was normoblastic, active, and quantitatively normal. The outstanding observation was the maturation arrest in granulocyte development. Granulopoiesis was active, with numerous mitoses, but maturation beyond the myelocyte level was strikingly depressed. Band forms were scarce, and polymorphonuclear cells were entirely absent in most fields (fig. 2).

The patient was treated with penicillin and streptomycin to control possible infection. Small daily transfusions of 250 cc. of fresh whole blood were given for the first four days as supportive treatment. Corticotropin (ACTH) in a dose of 80 mg. daily was given for nine days, the dose gradually being reduced to 40 mg. daily. Under this regimen, the patient made rapid and steady progress. The toxicity quickly abated, the rash disappeared, and the temperature fell rapidly to normal by the third hospital day. The soreness of the tongue and pharynx subsided slowly but were replaced by a progressive burning sensation, which radiated down the esophagus and trachea. By the fourth hospital day, there was a pouring out of immature and polymorphonuclear cells, heralding recovery. The leukemoid reaction reached a peak on the ninth

hospital day, with a count of 35,000 leukocytes per cubic millimeter and a pronounced shift to the left. Subjectively, the patient continued to improve steadily. The substernal pain and burning subsided, and she was able to eat without difficulty. The temperature remained normal, and she was discharged on the 11th hospital day, feeling entirely well. Results of peripheral blood and bone marrow studies performed three

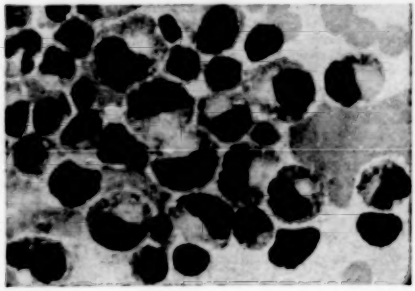


Fig. 2.—Sternal bone marrow on Oct. 9, 1952, at height of agranulocytic reaction; note maturation arrest at myelocyte-metamyelocyte stage.

days after discharge were entirely normal (tables 1 and 2 and fig. 3). She has continued to feel well, except for easy fatigability.

COMMENT

Since 1922, when Werner Schultz described the syndrome of agranulocytosis, an increasing number of drugs have been incriminated as causing this often fatal condition. Phenylbutazone may now be added to the list of etiological agents. Whether its activity is due to direct inhibition of the marrow or to a specific sensitivity on the part of the patient cannot be determined from this one case alone. We did not think it advisable to test for sensitivity by giving our patient a small trial dose. The striking maturation arrest of granulopoiesis suggests a direct specific action on the myelocytic series of the marrow. Whatever may be the mechanism of action, the presence of a benzamine type of linkage in the structural formula (with nitrogen directly attached to the benzene ring) in any medicament should arouse suspicion that the drug may be capable of causing agranulocytosis. This has proved true of phenylbutazone.

Our patient received 600 mg. of phenylbutazone daily for 10 days before toxic symptoms occurred. She previously had been receiving salicylate therapy alone, and, fortunately, a blood study was done before initiation of phenylbutazone treatment. The patient had been taking salicylates, chiefly acetylsalicylic acid, for years previously and had never shown sensitivity or a toxic reaction to them. Phenylbutazone was the only new drug introduced into her treatment regimen and was unquestionably the cause of her severe reaction.

With the exception of actual ulceration of the oropharynx, all the manifestations of severe agranulocytosis were present. There was marked toxic prostration, high fever, edema and redness of the mucous membranes, complete peripheral granulocytopenia, and a pronounced maturation arrest of granulopoiesis at the myelocyte-metamyelocyte level in the marrow. The red cell and platelet producing elements of the marrow fortunately were not seriously affected, and the development of necrotizing hemorrhagic lesions did not occur. Treatment with small fresh blood transfusions, antibiotics to prevent infection, and corticotropin quickly effected a reversal of the process and a return to normal.

The exact role of corticotropin therapy in stimulating recovery and in aiding the reversal of the marrow arrest is difficult to evaluate. It certainly was of great benefit in abating the toxic prostrated state of our patient. Our impression was that the response of the marrow to corticotropin in this case resembled the comparatively easy reversibility seen in depressed marrow states following treatment with thiouracil derivatives, "aminopterin" (4-aminopteroylglutamic acid), triethylenemelamine, and nitrogen mustard, in which cases we feel that corticotropin actually hastens return of the marrow to normal. Corticotropin and cortisone have been of no avail in our hands in the extreme marrow aplasia seen in rare cases following mesantoin* (5-ethyl-3-methyl-5phenylhydantoin), chloramphenicol, and gold therapy.

Another interesting observation was the pronounced leukemoid rebound this patient showed. Apparently, with elimination of the inhibiting effect, an outpouring of granulocytic elements typically leukemoid in nature occurred. On the fifth day of her hospital stay, inspection of the peripheral blood alone in this patient would certainly have led to a diagnosis of subacute granulocytic leukemia; however, the primitive cells gradually progressively diminished in number, and the final blood picture was entirely normal, establishing the phenomenon as a leukemoid rebound following previous inhibition.

In addition to this severe case of toxicity, a second patient has been observed by one of us with mild leukopenia following the use of phenylbutazone. In this patient, a 36-year-old white woman, the white blood cell count dropped to 4,040 per cubic millimeter after treatment with 600 mg. of phenylbutazone per day for 16 days. The differential count was normal, and there were no symptoms. The phenylbutazone was discontinued, and the white blood cell count returned to a normal level in one week.

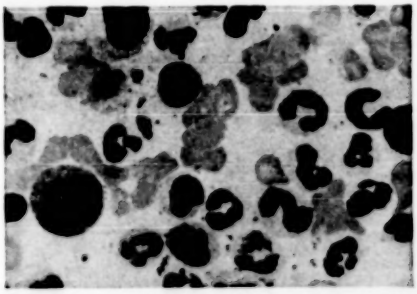


Fig. 3.—Sternal bone marrow on Oct. 22, 1952; note increased numbers of band and segmented forms.

SUMMARY

A case of agranulocytosis due to therapy with phenylbutazone (butazolidin*) is reported. The patient showed high fever, sore throat, marked toxic prostration, morbilliform rash, and severe granulocytopenia and leukopenia together with a maturation arrest of granulopoiesis in the marrow. Withdrawal of phenylbutazone and treatment with antibiotics, small fresh whole blood transfusions, and corticotropin (ACTH) produced dramatic recovery. The importance of close hematological observation of all patients receiving phenylbutazone therapy is stressed.

1819 Biscayne Blvd. (32) (Dr. Neber).

COUNCIL ON PHARMACY AND CHEMISTRY

REPORT TO THE COUNCIL

The Council has authorized publication of the following report. R. T. STORMONT, M.D., *Secretary.*

UNIFORM POTENCY FOR INJECTABLE SOLUTIONS OF HEXAMETHONIUM SALTS

Hexamethonium, a ganglionic blocking agent, produces hypotensive effects by parenteral injection. It is currently available as the bromide salt in a solution for injection, marketed by E. R. Squibb & Sons under the protected name bistrium bromide. The drug is also available as the chloride salt for oral administration under other brand names as follows: bistrium chloride (E. R. Squibb & Sons), esomid chloride (Ciba Pharmaceutical Products, Inc.), hexameton chloride (Burroughs Wellcome and Co., Inc.), and methium chloride (Warner-Chilcott Laboratories). Burroughs Wellcome also supplies the chloride in solution for injection.

The iodide and bitartrate salts of the drug are also suitable for parenteral administration. Injectable salts are useful in the management of acute episodes of severe hypertension and in the control of acute vasospasm associated with peripheral vascular disease. Hexamethonium compounds given orally are useful in the treatment of moderate to severe hypertension. Neither the bromide nor the iodide is suitable for oral administration in the management of hypertension, because the relatively high dosage required to produce the therapeutic effects of the drug by that route causes brominism or iodism. However, the more immediate and intense action produced by injection of relatively small doses involves a greater hazard of accidental overdosage and acute hypotension than does the use of oral salts of the drug. Necessary caution in the use of both oral and injectable hexamethonium salts and similar hypotensive agents has been emphasized previously (*J. A. M. A.* **149**:215-220 [May 17] 1952).

The Council has been keenly interested in differences in concentration and in the method of declaring potency for various preparations of the drug. The Squibb solution of the bromide for injection was labeled to indicate potency in terms of hexamethonium ion, in harmony with the method of expressing dosage employed during and following experimental phases of clinical investigation. The Squibb solution is supplied in a concentration equivalent to 25 mg. of the ion per cubic centimeter, which corresponds to 44.7 mg. of hexamethonium bromide per cubic centimeter when expressed in terms of the weight of the whole molecule. The Council has requested this manufacturer to add to its label a declaration of potency in terms of the whole compound, to conform to the long-established method of labeling and expressing dosage for drug products. It has granted the firm permission to retain the present declaration of concentration in terms of the hexamethonium ion to aid in the interpretation of dosage based on the ion, which appears in the literature. This will permit direct comparison with oral preparations that are labeled in terms of the weight of the compound rather than that of the ion. Label declarations of potency for parenteral solutions should be stated in terms of both the ion and the salt and should give more prominence to that expressed for the ion.

A knowledge of the equivalent amounts of various salts of the same drug would not be necessary if the method of expressing potency and dosage in terms of the ion were in common use. Unless this method can be universally adopted for the majority of drugs, it is less confusing to retain the conventional method of stating potency and dosage of new compounds. On the basis of comparative molecular weights, hexamethonium chloride provides about one-tenth and one-third more of the active ion than equal amounts of the bitartrate and bromide respectively. The magnitude of these differences is significant only in the comparative dose of the bromide, particularly when that salt is administered parenterally. With properly supervised oral administration, equal doses of the various salts, expressed as such, would not involve clinically important differences, except for the added hazard of brominism or iodism.

A more fundamental and clinically significant aspect of dosage and labeling for potent therapeutic agents lies in differences of equivalent potency between different brands of the same drug. Because physicians sometimes think of dosage in terms of cubic centimeters or number of tablets required rather than of weight per unit, a serious error could result from changing brands of an injectable preparation in which the concentration was subject to rather wide variations in equivalent potency. The incentive of a manufacturer to increase the amount of active ingredient, to effect economy or to meet the needs of clinicians, is sometimes influenced by efforts to outstrip competitors by promoting the claim of higher potency. Fortunately this problem is less likely to involve potent therapeutic agents capable of producing dangerous side-effects.

Recently, at the suggestion of the Council, Burroughs Wellcome agreed to reduce the concentration of its injectable solution of the chloride (initially prepared to contain the equivalent of 30 mg. of hexamethonium ion per cubic centimeter) to make this correspond to the original concentration equivalent to 25 mg. of the ion per cubic centimeter (33.8 mg. expressed in terms of the chloride). Uniformity in equivalent potency among various salts and brands of the drug will reduce the chance of error in dosage during clinical use. The willingness of Burroughs Wellcome to cooperate in this matter is commendable. The firm has agreed to label its solution in terms of the salt as well as the ion.

The Council issues this report to urge upon pharmaceutical manufacturers the need for uniformity in the potency of injectable preparations of hexamethonium salts and other potent agents. There is need also among clinicians to avoid oversimplification of expressions in writing prescriptions for potent drugs and to acquire more familiarity with the dosage of therapeutic agents in terms of weight. Meanwhile, manufacturers of potent drugs might well include with dosage instructions, expressions to indicate corresponding amounts of the salt as compared to the ion, including, whenever necessary, the volume of solution containing the correct dose.

Physicians should be continually alert to the introduction of higher potency solutions of otherwise established preparations, which are based upon economy, a revision of dosage requirements, or a new method of administration. Under such circumstances, the Council welcomes the introduction of justifiable modifications. Thus, to meet the need of hypertensive patients requiring and tolerating larger parenteral doses, the Council has under consideration a higher concentration containing the equivalent of 100 mg. of hexamethonium ion per cubic centimeter. Uniformity among manufacturers to standardize the potency of a second concentration to that equivalent also seems desirable. This will avoid the unwieldy volume of the original dilute solution when higher doses are indicated. Corresponding amounts can be readily compared on the basis that 1 cc. of the 100 mg. preparation equals 4 cc. of the 25 mg. solution.

NEW AND NONOFFICIAL REMEDIES

The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its action will be sent on application.

R. T. STORMONT, M.D., *Secretary.*

STREPTODORNASE

Streptodornase is a desoxyribonuclease, or a specific series of such enzymes, produced by the growth of hemolytic streptococci. Most strains of this organism produce a streptodornase (desoxyribonuclease), but the nature of the streptodornase produced may not be similar in every case. Desoxyribonucleases may also be produced by other micro-organisms, such as pneumococci, and from beef pancreas. The desoxyribonuclease from beef pancreas, as purified by Kunitz, is a single enzyme and can liquefy the fibrils of polymerized desoxyribonucleic acid, but it does not continue the degradation through to purine and pyrimidine compounds, which occurs with streptodornase.

Streptodornase acts directly upon a substrate of desoxyribonucleoprotein and desoxyribonucleic acid, which are the chief constituents within the nuclei and constitute 30 to 70% of the sediment of thick purulent exudates. The nucleoprotein is split into free purine bases and pyrimidine nucleosides, thus causing a drop in the viscosity of purulent material. In addition to its depolymerase action, there is a progressive liberation of acid-soluble phosphorus and nitrogen from the substrate, with no increase in uric acid. The enzyme thus produces a striking decrease in degenerated leucocytes and a rapid disappearance of all extracellular desoxyribonucleoprotein. Its action requires the presence of the magnesium ion that is universally present in tissues. It acts only on extracellular nucleoprotein or nuclei of degenerating cells; it does not attack the nuclei or nucleoprotein of living cells and there is no evidence of species specificity. The concentration of streptodornase bears a linear relation to its depolymerase activity which is highest between pH 7.0 and 8.5 and is optimal at about pH 7.5. Thermal inactivation increases with the temperature, especially above 45 C. Streptodornase activity is inhibited by citrate and heparin, but not by other commonly employed drugs which have been tested. Streptodornase is antigenic and capable of stimulating production of antistreptodornase. Its specific antibody, antistreptodornase, has not been found to interfere significantly with streptodornase activity when the enzyme is used in relatively large amounts.

STREPTOKINASE

Streptokinase is an extracellular enzyme activator produced by the growth of various groups of hemolytic streptococci, among which human strains of Lancefield's Group C are a highly potent source. Streptokinase was originally designated as fibrinolysin, but later renamed because studies determined that its action was not on fibrin or fibrinogen, but rather that the fibrinolytic activity resulted from the activation by streptokinase of a fibrinolytic factor in human serum (euglobulin fraction of plasma). The human serum factor is termed plasminogen (profibrinolysin of Loomis, euglobin factor, lysing factor of Milestone) and, when activated, splits fibrin into polypeptides causing dissolution of blood clots and fibrinous exudates. It is theorized that streptokinase changes the serum factor plasminogen into an active enzyme plasmin which then catalyzes fibrinolysis. The presence of a spontaneous fibrinolytic enzyme in human blood explains the slow dissolution of sterile blood clots stored for long periods in test tubes, and the liquefaction of cadaver blood. Clotting apparently changes plasminogen into plasmin. Although certain nonspecific substances, such as chloroform and epinephrine, are capable of converting plasminogen to plasmin, streptokinase is unique in its specificity and the rapidity with which it transforms plasminogen to plasmin. Under the influence of plasmin, insoluble fibrin and soluble fibrinogen undergo a mild proteolysis to smaller soluble proteins or large polypeptides, with only approximately 10% evolved as nonprotein nitrogen. Streptokinase has maximal activity at a reaction between pH 7.3 to 7.6. At a reaction of pH 5.0 it is inactivated, but can be reactivated if the reaction is adjusted to pH 7.3 to pH 7.6. At a reaction of pH 9.0 or above, streptokinase is irreversibly inactivated.

Streptokinase may also stimulate the production of antistreptokinase, which specifically inhibits the streptokinase transformation of plasminogen to plasmin by streptokinase. Normally, the fibrinolytic action of the latter serum factor is prevented by a serum inhibitor designated antiplasmin. Streptokinase does not affect antiplasmin, but by increasing plasmin through its activation of plasminogen, the plasmin/antiplasmin balance is overcome to permit fibrinolysis. The balance between fibrinolysin and antifibrinolysin (plasmin/antiplasmin) is reported to be under control of the pituitary gland through stimulation of adrenal cortical hormones; the tendency toward increased fibrinolysis in shock can be counteracted if sufficient cortical hormones are produced to accelerate the combination of the fibrinolytic enzyme with its inhibitor.

Streptokinase-Streptodornase. — Varidase (Lederle). — Streptokinase-streptodornase is a mixture composed of enzymes derived from the growth of a strain of Streptococcus hemolyticus together with phosphate buffer salts. Streptokinase is a proteolytic enzyme active in the solution of fibrin. Streptodornase is a proteolytic enzyme active in depolymerization of desoxyribonucleic acid, a component of pus. It is assayed by bacteriologic and biologic methods.

Actions and Uses.—Streptokinase and streptodornase are proteolytic extracellular enzymes produced by cultural growth of hemolytic streptococci (Lancefield's Group C, human strain H46A). These enzymes are employed together in solution as a purified bacteria-free filtrate which has been frozen and dried. The filtrate is purified and this purification may effect a reduction in the relative amounts of other enzymes produced during the fermentation, such as hyaluronidase and ribonuclease. It may also contain certain enzyme-inhibiting substances whose action is minimized by appropriate dilution. The active enzymes function best in a slightly alkaline solution so that the filtrate is buffered to maintain a pH of plus or minus 7.5.

In addition to their proteolytic activity, streptokinase and streptodornase stimulate two types of nonspecific reaction, a local outpouring of fluid and phagocytes at the site of application and, in certain instances, a foreign protein type of pyrogenic reaction that is attributed to the absorption of cleavage products produced by the enzymes. The latter reaction occurs usually only when the enzymes are injected into a closed space, especially when this is limited and drainage is delayed.

Streptokinase and streptodornase are used to remove clotted blood or fibrinous or purulent accumulations present following trauma or inflammation, thereby facilitating the action of anti-infective forces (humoral and antibiotic) and encouraging normal repair of tissues. The enzymes are clinically established for use as an adjunct in the treatment of hemothorax, hematoma, empyema, and chronic suppurations involving draining sinuses, osteomyelitis, infected wounds or ulcers, and other common suppurative lesions. As an adjunct to surgical intervention in the care of chronic suppuration, the enzymes may aid in making secondary closure more effective. They should be employed as supplements rather than as substitutes for surgical débridement and drainage. They also may be of value as an aid in the prevention of postoperative adhesions. The enzymes do not act upon fibrous tissues, mucoproteins, or collagen so that whenever an area of hemorrhage or pyogenic exudate is in a state of organization, their action is less efficacious. They are of no value in the treatment of inflammations unless suppuration is present.

Streptokinase and streptodornase should not be employed in the presence of active hemorrhage or acute cellulitis without suppuration because they may interfere with clotting or encourage the spread of nonlocalized infections. When bronchopleural fistulas have been present, there is danger of reopening, especially with active tuberculosis. With other types of fistulas, the enzymes may be used with proper precautions.

Streptokinase and streptodornase must not be administered intravenously.

Dosage.—Streptokinase and streptodornase are applied by injection into cavities and topically by means of wet dressings or

added to other materials suitable for keeping the enzymes in close contact with the substrate. The enzymes are used as a solution containing 100,000 Christensen units of streptokinase and at least 25,000 units of streptodornase in not less than 10 cc. of isotonic sodium chloride solution. For a hemothorax or thoracic empyema, an initial dose of 200,000 units of streptokinase and 50,000 units of streptodornase is recommended for injection into one or more sites, as indicated. The most effective final concentration ranges from 100 to 500 units per cubic centimeter of the fluid in situ. For treatment of tuberculous empyema the special procedures reported in the literature should be followed carefully. For exudates within small, enclosed spaces, the size and concentration of the dose should be related to the size of the cavity. In general, this should provide for the increased volume that results from the liquefying action of the enzymes. For example, a suitable initial dose in maxillary sinus empyema would be 10,000 to 15,000 units of streptokinase and 2,500 to 3,750 units of streptodornase in 2 to 3 cc. of solution. For enzymatic débridement, similar concentrations may be applied by means of suitable dressings (this is still under investigation to determine optimal methods). Adequate provision should be made for complete drainage of the liquefied exudate. In a fixed rigid space the dosage interval for repeated injections will range from 30 minutes to 6 hours, depending on the size of the space; in empyema of the chest, 12 to 24 hours usually is suitable. The amount and character of the fluid aspirated or drained serves as a guide to the number of applications required. This must be evaluated to determine whether the drainage results from increased inflammatory activity or from unresolved exudate requiring further enzyme treatment.

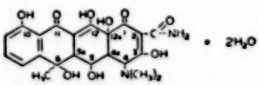
Streptokinase usually produces a demonstrable effect within one hour and streptodornase somewhat sooner. Maximal liquefaction is usually obtained within 12 to 24 hours. The action of the enzymes is self-limiting, within 24 to 48 hours, because of the interference of serum inhibitors and because a state of equilibrium is reached between substrates and end-products. In addition, the action of streptokinase is limited by the amount of human serum factor present. Since both enzymes are antigenic and stimulate production of antienzymes, these may reduce activity after two to three weeks unless larger amounts are employed to offset such inhibition. Appropriate precautions are necessary to avoid allergic reaction in sensitive patients.

Solutions deteriorate in potency at room temperatures and may be held for seven days at 2 to 10° C (35.6 to 50° F). Strict aseptic precautions are essential to avoid contamination.

Lederle Laboratories Division, American Cyanamid Company, Pearl River, N. Y.

Powder Varidase: 24 cc. vial. A sterile powder containing the equivalent of 100,000 units of streptokinase and 25,000 units of streptodornase. Buffered with sodium phosphate to a pH of 7.5. Preserved with thimerosal 1:10,000.

Oxytetracycline.—Terramycin (Pfizer).—$C_{22}H_{24}N_2O_9.2H_2O$.—M.W. 496.46.—The dihydrate of 4-dimethylamino-1,4,4a,5,5a,6,11,12a-octahydro-3,5,6,10,12,12a-hexahydroxy-6-methyl-1,11-dioxo-2-naphthacenecarboxamide.—Oxytetracycline is isolated from the elaboration products of the actinomycete, Streptomyces rimosus, when the micro-organism is grown on suitable culture media. The structural formula of oxytetracycline may be represented as follows:



Actions and Uses.—Oxytetracycline, as the base, is suitable for oral administration for the same purposes as the more soluble oxytetracycline hydrochloride. (See New and Nonofficial Remedies 1952 under the general statement on terramycin and the monograph on terramycin hydrochloride.) Clinical studies of serum levels indicate that absorption of the base is approximately comparable to that of the hydrochloride following oral administration of equal doses of either form. Significant differences in side-reactions have not been observed.

Dosage.—Oxytetracycline, as the base, is administered in the same doses as specified for oxytetracycline hydrochloride, since the latter is also expressed in terms of the base.

The total daily oral dose for moderately ill adults should be based on 25 mg. per kilogram of body weight. This total dose is administered in divided doses at six-hour intervals. For severely ill adults the total daily dose is calculated on the basis of 50 mg. per kilogram of body weight. The total daily oral dose for infants and children with severe illness is usually based on 40 mg. per kilogram of body weight.

Tests and Standards.—

Physical Properties: Oxytetracycline is a dull yellow, odorless, slightly bitter crystalline powder, m.p. 179.0-182.0° (with decomposition). It is soluble in acids and alkalis; very slightly soluble in acetone, alcohol, chloroform, and water; and practically insoluble in ether.

Identity Tests: To about 25 mg. of oxytetracycline add 5 ml. of water, shake, and add 1 drop of ferric chloride T.S.: a dark brown color appears immediately.

To about 25 mg. of oxytetracycline add 2 ml. of water and 2 ml. of alkaline cupric tartrate T.S., shake, and heat the solution: a reddish brown precipitate of copper forms *(presence of reducing groups).*

To about 25 mg. of oxytetracycline add 5 ml. of water and 3 drops of diluted hydrochloric acid, shake until dissolved, add 2 drops of Molisch's reagent (5% α-naphthol in alcohol), and carefully underlay the solution with 3 ml. of sulfuric acid: a reddish brown color appears at the interface.

To 25 mg. of oxytetracycline add 5 ml. of water and 5 drops of sodium hydroxide T.S., shake, and add a few drops of diazobenzene sulfonic acid T.S.: the solution turns red.

The specific rotation, $[\alpha]^{25}_D$, of a 1% solution prepared from anhydrous oxytetracycline in 0.1 *N* hydrochloric acid is —208 to —216°.

A 0.00125% solution of anhydrous oxytetracycline, prepared as described in the spectrophotometric assay for oxytetracycline, exhibits ultraviolet absorption maxima at about 269 and 353 mμ [specific absorbancy, $E(1\%, 1\ cm.)$, 300-312], minima at about 232 and 299 mμ, and a slight inflection at about 313 mμ. The ratio of the absorbancies at 269 and 353 mμ is 1.32-1.38.

Purity Tests: Dissolve 0.1 gm. of oxytetracycline in 10 ml. of 0.1 *N* hydrochloric acid and run a *U. S. P. dithizone test for lead:* the amount of heavy metals does not exceed 25 ppm.

Dry about 0.5 gm. of oxytetracycline, accurately weighed, in a vacuum oven at 75° for 6 hours: the loss in weight does not exceed 7.75%.

Char about 0.5 gm. of oxytetracycline, accurately weighed, cool the residue, add 1 ml. of sulfuric acid, heat cautiously until evolution of sulfur trioxide ceases, ignite, cool, and weigh: the residue does not exceed 0.6%.

Assay: (Oxytetracycline) Prepare a 0.00125% solution of oxytetracycline as follows. Transfer to a 200 ml. volumetric flask about 50 mg. of oxytetracycline, accurately weighed, fill to the mark with U. S. P. Clark and Lubs buffer, pH 2.0, and mix. Transfer to a 100 ml. volumetric flask 5 ml. of this solution, fill to the mark with buffer, and mix. Spectrophotometrically determine the absorbancy in a 1 cm. quartz cell at 353 mμ, using the buffer as a blank. The concentration of oxytetracycline, calculated on the anhydrous basis, in the solution in mg./ml. = absorbancy ÷ 30.6. The amount of oxytetracycline is not less than 96.0 nor more than 104.0%.

Dosage Forms of Oxytetracycline

TABLETS. ***Identity Tests:*** The solution prepared for the assay of the tablets responds to the spectrophotometric data given under identity tests for the active ingredient in the monograph for oxytetracycline.

Assay: (Oxytetracycline) Remove the outer coating of 10 tablets by swirling with eight 15 ml. portions of water and decanting each time. Add 20 ml. of water and slowly add 5 ml. of diluted hydrochloric acid. Stir until the tablets disintegrate. Add 150 ml. of U. S. P. Clark and Lubs buffer, pH 2.0, and stir. Filter into a 250 ml. volumetric flask. Rinse the flask and wash the filter paper with three 15 ml. portions of buffer. Make up to the mark with buffer and mix. Pipet a volume of solution equivalent to about 50 mg. of oxytetracycline into a 200 ml. volumetric flask, make up to the mark with buffer, and mix. Pipet 5 ml. of the solution into a 100 ml. flask, make up to the mark with buffer, and mix. Spectrophotometrically determine the absorbancy in a 1 cm. quartz cell at 353 mμ, using the buffer as a blank. The concentration of oxytetracycline, calculated on the anhydrous basis, in the solution in mg./ml. = absorbancy ÷ 30.6. The amount of oxytetracycline is not less than 85.0 nor more than 115.0% of the labeled amount.

Chas. Pfizer & Company, Inc., Brooklyn.

Tablets Terramycin: 50 mg., 0.1 gm., and 0.25 gm.

Testosterone Propionate-U.S.P. (See New and Nonofficial Remedies 1952, p. 368).

The Bio-Intrasol Laboratories, Inc., Brooklyn.

Aqueous Suspension Testosterone Propionate with Procaine Hydrochloride 1%: 10 cc. vials. A suspension in isotonic saline solution containing 25 mg. of testosterone propionate in each cubic centimeter. Preserved with thimerosal 1:10,000.

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THE NEW YORK MEETING

The 102nd Annual Meeting of the American Medical Association will be held in New York City, June 1-5. The program for the meeting appears in this issue of THE JOURNAL. Few medical meetings in the world can approach in scope and magnitude these annual meetings. This year, advances in diagnosis, treatment, and clinical investigation in all branches of medicine will be presented in some 400 scientific papers, 260 scientific exhibits, 370 technical exhibits, and daily motion picture and television programs. Nationally prominent authorities will review such problems as postoperative adrenal insufficiency, management of hypertension, treatment of peptic ulcer, and prevention of heart disease before the general meetings of the Scientific Assembly at the Commodore Hotel. At the meetings of the 20 sections of the assembly, representing all major specialties in medicine, outstanding physicians will present original papers and participate in symposiums on current medical problems. Special demonstration exhibits on artificial respiration, management of fractures, and fresh pathological specimens will form part of the scientific exhibits. These and the technical displays of new drugs, instruments, books, equipment, and other aids to practice will provide an excellent opportunity to absorb much information in a short time. The exhibits will be located on four adjacent floors of New York's Grand Central Palace, where elevators and stairs will furnish convenient access to all departments. The medical motion pictures, covering such subjects as office dermatological procedures and surgical repair of direct inguinal hernias, will be shown at the Biltmore Hotel. The authors will be present in many cases to discuss the films. Medical color television, always a popular feature, will originate from the operating rooms and clinics of the New York Hospital and will be viewed on two 5 by 6 ft. screens in the Hendrick Hudson room of the Roosevelt Hotel.

In addition to the formal scientific program, this year's Annual Meeting has a number of other attractions to offer, both educational and recreational. Many physicians will wish to attend one or more meetings of the A. M. A. House of Delegates in the Grand Ballroom of the Waldorf-Astoria Hotel to see A. M. A. policy in the making. Others will wish to visit such medical meccas as the New York University–Bellevue Medical Center, the New York Hospital–Cornell Medical Center, the Columbia–Presbyterian Hospital Medical Center, and the Rockefeller Institute for medical research, all located in metropolitan New York. Those inclined toward relaxation can take advantage of New York's unlimited recreational facilities. Opportunities for entertainment will also be provided in connection with the Annual Meeting. The American Medical Golfing Association will hold its 37th tournament on the opening day of the meeting at the beautiful Swianoy Golf Club at Bronxville. Those interested in participating will find details on page 1304. At the Grand Central Palace and the Plaza Art Galleries about 500 art pieces in 20 different media will be exhibited by members of the Physicians Art Association. Many fraternities and alumni groups will hold luncheons, dinners, and meetings during the five days of the Annual Meeting, and the President's Inaugural Meeting, reception, and ball at the Commodore Hotel will be open to all visitors. The Doctors' Symphony Orchestra of New York will play at the Inaugural Meeting. Wives of physicians are cordially invited to participate in the meetings and social functions of the Woman's Auxiliary to be held at the Hotel Statler.

The Association's Annual Meeting has much to offer to all physicians. Those planning to attend are urged to make arrangements early. Blanks for hotel reservations appeared in the March 28 issue of THE JOURNAL and will be available in future issues.

GAMMA GLOBULIN IN THE PREVENTION OF POLIOMYELITIS

Last October 25, Hammon and his associates reported in THE JOURNAL on the use of gamma globulin processed from pooled serum collected by the Red Cross in the prevention of paralytic poliomyelitis. At that time it appeared, after extensive field tests on numerous children, that significant protection had been conferred by the gamma globulin for a short period of time. It was pointed out, however, that more definite conclusions regarding the duration of protection and possible modification of the disease should be available after a longer follow-up period. In this issue of THE JOURNAL (page 1272), is the final clinical report of these investigators on the results of the field tests based on clinical diagnosis. All physicians and others who may be called on to assist in the care of patients or in the control of future outbreaks of poliomyelitis should read this report carefully.

On the basis of 104 cases of paralytic disease occurring among about 55,000 children, half of whom received gamma globulin and half gelatin (the control group), these investigators conclude that gamma globulin in an average dose of 0.14 cc. per pound of body weight gave highly significant protection against paralytic poliomyelitis. The follow-up period was 14 weeks. Cases occurring during the first week following the injection were significantly modified in severity, and during the next four weeks a high, but not complete, protection was demonstrated. During the sixth to the eighth week after injection, the protection appeared to be waning, and none was detectable after the eighth week.

These workers emphasize that gamma globulin should be given intramuscularly and never intravenously and that a separate heat-sterilized syringe and needle should be used for each child.

Hammon and associates say that gamma globulin is not a panacea for the prevention of paralytic poliomyelitis. It has drawbacks and disadvantages, among which are the short duration of passive protection, the need for reinjection each time poliomyelitis becomes prevalent in the community, the inability to determine the optimal time for use of gamma globulin, the fact that children susceptible to poliomyelitis cannot be distinguished from immune children, and the fact that protection is not always complete. No late complications resulting from the injections came to the attention of the follow-up team physicians and physical therapists in either area. There were no late abscesses nor delayed local or residual reactions that could be attributed to the injections.

The Office of Defense Mobilization has been given the authority to allocate the available supplies of gamma globulin, which will be far short of the expected demand. A committee of the National Research Council is advising the Office of Defense Mobilization regarding allocation and recommended uses. The research data presented in the report in this issue of THE JOURNAL should help the practicing physician to use the material in the most effective manner and help him to keep such records as will be of greatest value in learning more about how gamma globulin can be used effectively.

VARIATION IN TECHNIQUE OF INTRACUTANEOUS B.C.G. VACCINATION

Although the technique for giving an intracutaneous injection is ordinarily understood to imply introduction of 0.1 cc. of fluid as superficially as possible into the skin, even when such a simple procedure becomes commonplace, individually insignificant errors and deviations may, in the aggregate, create problems of unexpected magnitude. The full import of this situation and its possible consequences was probably not felt until intracutaneous injections of B.C.G. vaccine were given to millions of persons during international mass vaccination campaigns.

According to Palmer and Edwards,[1] an intracutaneous injection of B.C.G. vaccine may deviate from the recommended technique in two principal ways: first, more or less than the specified volume of 0.1 cc. may be administered, and, secondly, the vaccine may not be injected superficially into the skin. Recently, they reported results derived from a series of field studies on B.C.G. vaccine and vaccination undertaken during the past three years by the Tuberculosis Research Office of the World Health Organization, Copenhagen, in cooperation with the Danish Statens Seruminstitut and the International Tuberculosis Campaign. In these investigations, carried out among nearly 1,400 Danish school children, the volume and depth of injection of B.C.G. vaccine were deliberately varied within the limits likely to occur in ordinary mass vaccination campaigns and the effect of such variations on the resulting postvaccination tuberculin allergy and the local reactions at the site of vaccination were determined.

Because of leakage from syringes, the volume of vaccine injected was commonly gaged by estimating the size of the wheal formed on the skin rather than by reading the graduated markings on the barrel of the syringe. In one group of approximately 950 children, when different volumes of B.C.G. vaccine were injected superficially into the skin, 0.1 cc. of vaccine was found to produce wheals averaging 8 mm. in diameter. Doubling or halving the volume caused a difference averaging 1.5 mm.; a sixfold increase (from 0.05 to 0.3 cc.) caused a 4 mm. increase in the diameter. In a second study involving more than 400 children, depth of injection was varied but volume was kept constant. Deep intracutaneous injection of 0.1 cc. produced wheals averaging 3.1 mm. smaller than the same volume injected superficially.

Tuberculin allergy in school children, measured by the tuberculin reaction at intervals after vaccination, was practically unaffected by variations in intracutaneous technique. Volumes of 0.05 to 0.3 cc. of vaccine injected at depths ranging from very superficial injection in the skin to subcutaneous injection gave about the same mean level of postvaccination allergy. A given volume of vaccine injected into the subcutaneous tissue produced local lesions twice as large as those produced by a similar volume injected superficially. Local subcutaneous abscesses increased with deeper types of injection.

These studies indicate that the size of the reaction at the site of vaccination is influenced by the depth of injection of vaccine, but the level of B.C.G.-induced tuberculin allergy is not. Consequently, the size of the local vaccination reaction cannot be considered an exact measure of the degree of postvaccination allergy.

SCIENTIFIC AND TECHNICAL EXHIBITS TO BE IN GRAND CENTRAL PALACE

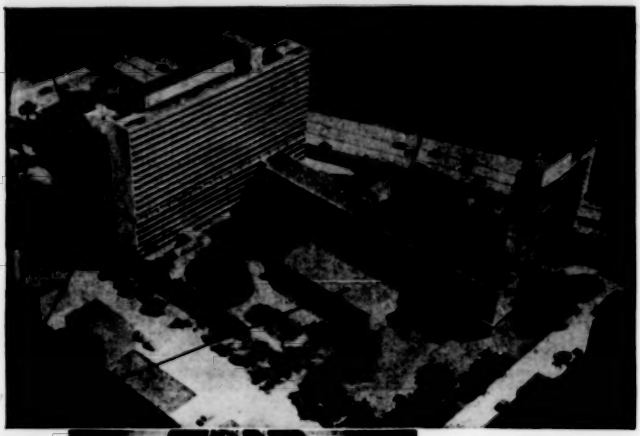
The *New York Times* published an item March 21 pointing out that the federal government had leased the Grand Central Palace at 480 Lexington Ave., New York City, and that the owners would immediately begin converting the four floors of exhibition space so that the Federal Bureau of Internal Revenue, third district, could move in about Dec. 15. This item has caused some confusion in the minds of those who plan to attend the annual meeting of the American Medical Association in New York in June, as information had already gone out that the scientific and technical exhibits would be held in the Grand Central Palace. All persons who were in doubt after reading the item in the *New York Times* may rest assured that there will be no changes made in the Grand Central Palace until after the A. M. A. exhibits have been held there.

1. Palmer, C. E., and Edwards, P. Q.: Variation in Technique of Intracutaneous B.C.G. Vaccination, Brit. M. J. 1: 363 (Feb. 14) 1953.

The NEW YORK 1953 MEETING

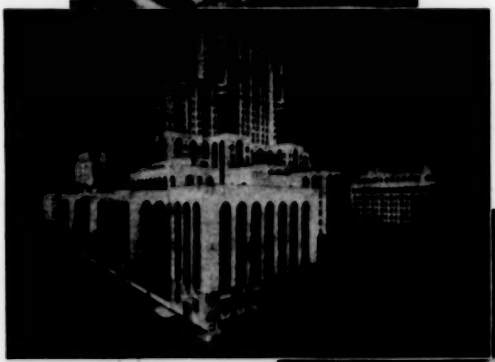
The famous New York skyline has as its pinnacle the Empire State Building, which is 1,250 feet above the street level and is said to be the tallest building in the world. Below is a general view of the skyline looking over the Hudson River.

The borough of Manhattan, the heart of New York City, is on an island 13½ miles long and 2¼ miles wide at one point. On three sides of this island are four other boroughs: the Bronx, to the North; Queens and Brooklyn to the East; and Staten Island, the borough of Richmond, to the South. These different sections of the city are interspersed with waterways and connected with great bridges, tunnels, and spacious boulevards. Surrounding the city are marvelous highways and interconnecting railroads, more rivers, and more bays. The whole area comprises the Port of New York District, and within it dwells a population of more than 11 million persons.

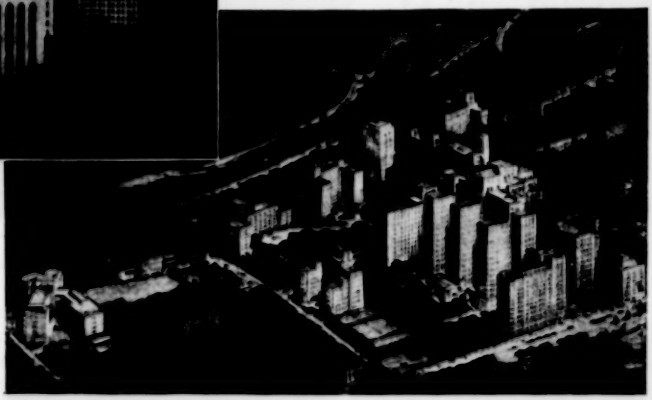


Architect's model of the new university section of the New York University-Bellevue Medical Center. 1. The Medical Science Building, now under construction, will house classrooms and laboratories of the College of Medicine and Postgraduate Medical School, the Berg Institute, and other medical school facilities. 2. The University Hospital. 3. The facilities for the Institute of Physical Medicine and Rehabilitation, now completed. 4. The Hall of Residents. 5. The Alumni Hall.

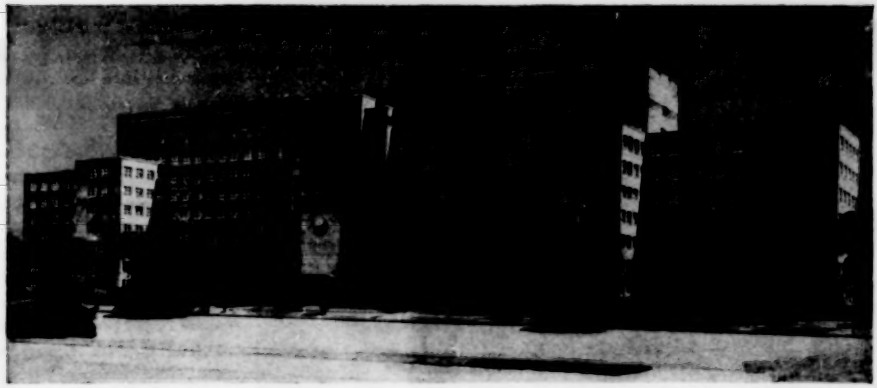
At left, the Grand Central Palace on Lexington Avenue between 46th and 47th streets where the scientific and technical exhibits will be during the annual A. M. A. meeting.

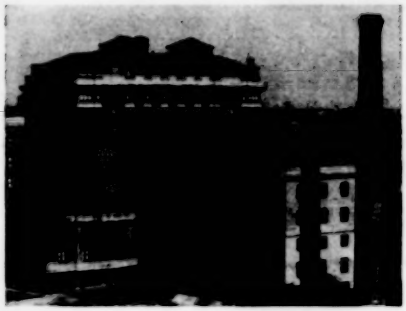


At left, the New York Hospital-Cornell Medical Center at 525 East 68th Street. The New York Hospital was first established in 1771 and has today a bed capacity of 1,681 exclusive of bassinets. The director of the hospital is Dr. Henry Pratt and the president of the medical board, Dr. David Barr.



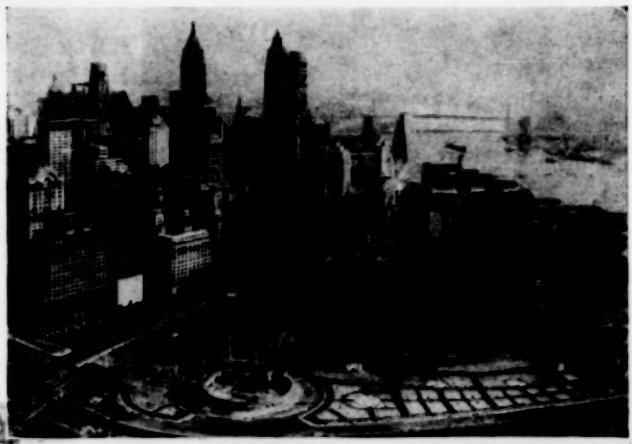
On the right, the Columbia-Presbyterian Hospital Medical Center on West 168th Street, facing the Hudson River. The Presbyterian Hospital in the city of New York was established in 1868. It has a bed capacity of 1,427 exclusive of bassinets. John S. Parke is the administrative head and Dr. Rustin McIntosh, the president of the medical board.

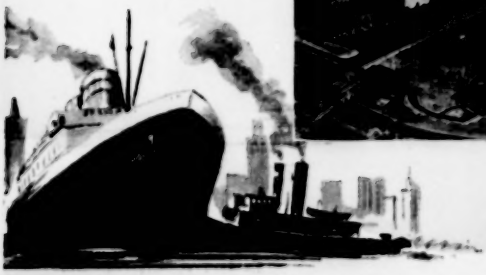




Above, architect's drawing of the Basic Science Building of the new State University of New York Medical Center for which ground will be broken soon, opposite the Kings County Hospital in Brooklyn. The new center is expected to open in the spring of 1955.

At left, the Hospital of the Rockefeller Institute for Medical Research at 66th Street and York Avenue. This hospital was established in 1910; a wing was added in 1951 and the main building modernized in 1952. The director and chief of staff is Dr. Thomas M. Rivers.





Above, lower Manhattan showing Battery Park facing the Statue of Liberty, which is on down the bay. In the distance on the right are the Brooklyn Bridge and the Manhattan Bridge, which span the East River leading to Brooklyn, a small section of which shows in the background.

THE NEW YORK MEETING

AMERICAN MEDICAL ASSOCIATION, ONE HUNDRED AND SECOND ANNUAL MEETING NEW YORK, JUNE 1-5, 1953

OFFICIAL CALL

To the Officers and Members of the American Medical Association

The 102nd annual meeting of the American Medical Association will be held in New York, June 1-5, 1953.

The House of Delegates will convene at 10 a. m. Monday, June 1. In the House the representation of the various constituent associations for 1953 is as follows:

Alabama	2	New Hampshire	1
Arizona	1	New Jersey	5
Arkansas	1	New Mexico	1
California	12	New York	17
Colorado	2	North Carolina	3
Connecticut	3	North Dakota	1
Delaware	1	Ohio	7
District of Columbia	2	Oklahoma	2
Florida	2	Oregon	2
Georgia	2	Pennsylvania	11
Idaho	1	Rhode Island	1
Illinois	10	South Carolina	2
Indiana	4	South Dakota	1
Iowa	3	Tennessee	3
Kansas	2	Texas	6
Kentucky	2	Utah	1
Louisiana	2	Vermont	1
Maine	1	Virginia	2
Maryland	2	Washington	3
Massachusetts	5	West Virginia	2
Michigan	6	Wisconsin	3
Minnesota	4	Wyoming	1
Mississippi	2	Alaska	1
Missouri	4	Hawaii	1
Montana	1	Isthmian Canal Zone	1
Nebraska	2	Puerto Rico	1
Nevada	1		

The scientific sections of the American Medical Association, the Medical Corps of the Army, the Medical Corps of the Navy, the Medical Corps of the Air Force, the Public Health Service, and the Veterans Administration are entitled to one delegate each.

The Scientific Assembly of the Association will open with the General Scientific Meetings to be held Monday, June 1, starting at 9 a. m. in the morning and at 2 p. m. in the afternoon. The Inaugural Meeting, at which the President will be installed, will be held on Tuesday, June 2. The sections will meet Tuesday, Wednesday, and Thursday, June 2, 3, and 4, as follows:

CONVENING AT 9 A. M. THE SECTIONS ON	CONVENING AT 2 P. M. THE SECTIONS ON
Anesthesiology	Dermatology and Syphilology
Experimental Medicine and Therapeutics	Diseases of the Chest
Gastroenterology and Proctology	General Practice
Internal Medicine	Military Medicine
Obstetrics and Gynecology	Miscellaneous Topics: Session on Allergy
Ophthalmology	Nervous and Mental Diseases
Orthopedic Surgery	Laryngology, Otology and Rhinology
Pathology and Physiology	Pediatrics
Physical Medicine and Rehabilitation	Radiology
Preventive and Industrial Medicine and Public Health	Surgery, General and Abdominal
Urology	

The Registration Bureau, which will be located on the first floor of Grand Central Palace, Lexington Avenue Entrance, will be open from 10 a. m. until 4 p. m. Sunday, May 31, from 8:30 a. m. until 5:30 p. m., Monday, Tuesday, Wednesday, and Thursday, June 1, 2, 3, and 4, and from 8:30 a. m. to 12 noon Friday, June 5.

LOUIS H. BAUER, President.
JAMES R. REULING, Speaker, House of Delegates.
GEORGE F. LULL, Secretary.

MEMBERS OF THE HOUSE OF DELEGATES

A Preliminary Roster of the Legislative Body of the American Medical Association

The list of members of the House of Delegates for the session is incomplete. Following is a list of the holdover members of the House of Delegates and of the newly elected members who have been reported to the Secretary in time to be included:

STATE DELEGATES

ALABAMA
J. Paul Jones, Camden
Carl A. Grote, Huntsville

ARIZONA
Jesse D. Hamer, Phoenix

ARKANSAS
William R. Brooksher, Fort Smith

CALIFORNIA
Robertson Ward, San Francisco
Samuel J. McClendon, San Diego
Eugene F. Hoffman, Los Angeles
John Winston Green, Vallejo
Lewis A. Aiesen, Los Angeles
Frank A. MacDonald, Sacramento
H. Gordon MacLean, Oakland
E. Vincent Askey, Los Angeles
Dwight L. Wilbur, San Francisco
Donald Cass, Los Angeles
J. Lafe Ludwig, Los Angeles
R. Stanley Knoeshaw, San Jose

COLORADO
George A. Unfug, Pueblo
William H. Halley, Denver

CONNECTICUT
Thomas J. Danaher, Torrington
Joseph H. Howard, Bridgeport
Stanley B. Weid, Hartford

DELAWARE
Lawrence L. Fischett, Milford

DISTRICT OF COLUMBIA
Hugh H. Hussey, Washington
Raymond T. Holden, Washington

FLORIDA
Louis M. Orr II, Orlando
Reuben B. Chrisman Jr., Miami

GEORGIA
Charles H. Richardson Sr., Macon
Eustace A. Allen, Atlanta

IDAHO
H. B. Woolley, Idaho Falls

ILLINOIS
H. Kenneth Scatliff, Chicago
Fred H. Muller, Chicago
J. Mather Pfeiffenberger, Alton
Harlan English, Danville
Everett P. Coleman, Canton
Percy E. Hopkins, Chicago
Warren W. Furey, Chicago
Charles H. Phifer, Chicago
Bernard Klein, Joliet
B. E. Montgomery, Harrisburg

INDIANA
Karl R. Ruddell, Indianapolis
Wendell C. Stover, Boonville
Cleon A. Nafe, Indianapolis
Eli S. Jones, Hammond

IOWA
Gerald V. Caughlan, Council Bluffs
George Braunlich, Davenport
Donald C. Conzett, Dubuque

KANSAS
John M. Porter, Concordia
Laurence S. Nelson Sr., Salina

KENTUCKY
Bruce Underwood, Louisville
Clark Bailey, Harlan

LOUISIANA
James Q. Graves, Monroe
Val H. Fuchs, New Orleans

MAINE
Martyn A. Vickers, Bangor

MARYLAND
John W. Parsons, Baltimore
Warde B. Allan, Baltimore

MASSACHUSETTS
Charles G. Hayden, Boston
Lawrence R. Dame, Greenfield
Philip S. Foisie, Boston
Earle M. Chapman, Boston
Norman A. Welch, Boston

MICHIGAN
Ralph A. Johnson, Detroit
William A. Hyland, Grand Rapids
John S. DeTar, Milan
Wyman D. Barrett, Detroit
Willis H. Huron, Iron Mountain
Robert L. Novy, Detroit

MINNESOTA
Orwood J. Campbell, Minneapolis
George A. Earl, St. Paul
J. Arnold Bargen, Rochester
Frank J. Elias, Duluth

MISSISSIPPI
John P. Culpepper, Hattiesburg
John F. Lucas, Greenwood

MISSOURI
Robert E. Schlueter, St. Louis
Rolla B. Wray, Nevada
Paul Baldwin, Kennett
Arthur S. Bristow, Princeton

MONTANA
Raymond F. Peterson, Butte

NEBRASKA
Karl S. J. Hohlen, Lincoln
Joseph D. McCarthy, Omaha

NEVADA
Roland W. Stahr, Reno

NEW HAMPSHIRE
Deering G. Smith, Nashua

NEW JERSEY
Joseph F. Londrigan, Hoboken
William F. Costello, Dover
J. Wallace Hurff, Newark
Elmer P. Weigel, Plainfield
L. Samuel Sica, Trenton

NEW MEXICO
Carl H. Gellenthien, Valmora

NEW YORK
J. Stanley Kenney, New York
John J. Masterson, Brooklyn
Maurice J. Dattelbaum, Brooklyn
Peter M. Murray, New York
George W. Kosmak, New York
A. H. Aaron, Buffalo
R. J. Azzari, New York
Edward T. Wentworth, Rochester
Thomas M. D'Angelo, Jackson Heights
Thomas A. McGoldrick, Brooklyn
Peter J. DiNatale, Batavia
Walter P. Anderton, New York
James R. Reuling, Bayside
Carlton E. Wertz, Buffalo

NEW YORK (contd.)
Edward P. Flood, New York
Herbert H. Bauckus, Buffalo
Thurman B. Givan, Brooklyn

NORTH CAROLINA
Charles F. Strosnider, Goldsboro
B. O. Edwards, Asheville
Millard D. Hill, Raleigh

NORTH DAKOTA
Willard A. Wright, Williston

OHIO
Ernest O. Swartz, Cincinnati
Clifford C. Sherburne, Columbus
Joseph Lindner, Cincinnati
Carl A. Linske, Carrollton
William M. Skipp, Youngstown
George A. Woodhouse, Pleasant Hill
Herbert B. Wright, Cleveland

OKLAHOMA
John F. Burton, Oklahoma City
James Stevenson, Tulsa

OREGON
William W. Baum, Salem
Raymond M. McKeown, Coos Bay

PENNSYLVANIA
William L. Estes Jr., Bethlehem
James L. Whitehill, Rochester
George S. Klump, Williamsport
Elmer Hess, Erie
James Z. Appel, Lancaster
Harold B. Gardner, Harrisburg
Charles L. Shafer, Kingston
Howard K. Petry, Harrisburg
G. C. Engel, Philadelphia
Louis W. Jones, Wilkes-Barre
William F. Brennan, Pittsburgh

RHODE ISLAND
Charles L. Farrell, Pawtucket

SOUTH CAROLINA
Julian P. Price, Florence
William Weston Jr., Columbia

SOUTH DAKOTA
H. Russell Brown, Watertown

TENNESSEE
William C. Chaney, Memphis
Charles M. Hamilton, Nashville
Robert B. Wood, Knoxville

TEXAS
Truman C. Terrell, Fort Worth
B. E. Pickett Sr., Carrizo Springs
Joseph B. Copeland, San Antonio
Arthur C. Scott Jr., Temple
John K. Glen, Houston
Robert B. Homan Jr., El Paso

UTAH
George M. Fister, Ogden

VERMONT
James P. Hammond, Bennington

VIRGINIA
Vincent W. Archer, Charlottesville
Carrington Williams Sr., Richmond
Malcolm H. Harris, West Point

WASHINGTON
David W. Gaiser, Spokane
R. A. Benson, Bremerton
Raymond L. Zech, Seattle

WEST VIRGINIA
Frank J. Holroyd, Princeton
Walter E. Vest, Huntington

WISCONSIN
William D. Stovall, Madison
Stephen E. Gavin, Fond du Lac
Joseph C. Griffith, Milwaukee

WYOMING
W. Andrew Bunten, Cheyenne

HAWAII
Alfred S. Hartwell, Honolulu

ISTHMIAN CANAL ZONE
Norman W. Elton, Ancon

DELEGATES FROM THE SECTIONS AND GOVERNMENT SERVICES

ANESTHESIOLOGY
Henry S. Ruth, Philadelphia

DERMATOLOGY AND SYPHILOLOGY
Robert R. Kierland, Rochester, Minn.

DISEASES OF THE CHEST
Hollis E. Johnson, Nashville, Tenn.

EXPERIMENTAL MEDICINE AND THERAPEUTICS
Edgar V. Allen, Rochester, Minn.

GASTROENTEROLOGY AND PROCTOLOGY
Louis A. Buie, Rochester, Minn.

GENERAL PRACTICE
Paul A. Davis, Akron, Ohio

INTERNAL MEDICINE
Charles T. Stone, Galveston, Texas

LARYNGOLOGY, OTOLOGY AND RHINOLOGY
Gordon F. Harkness, Davenport, Iowa

MILITARY MEDICINE
Russel V. Lee, Palo Alto, Calif.

NERVOUS AND MENTAL DISEASES
Hans H. Reese, Madison, Wis.

OBSTETRICS AND GYNECOLOGY
Harvey B. Matthews, Brooklyn

OPHTHALMOLOGY
William L. Benedict, Rochester, Minn.

ORTHOPEDIC SURGERY
Edward L. Compere, Chicago

PATHOLOGY AND PHYSIOLOGY
M. G. Westmoreland, Chicago

PEDIATRICS
W. L. Crawford, Rockford, Ill.

PHYSICAL MEDICINE AND REHABILITATION
Frank H. Krusen, Rochester, Minn.

PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH
R. T. Johnstone, Los Angeles

RADIOLOGY
Byrl R. Kirklin, Rochester, Minn.

SURGERY, GENERAL AND ABDOMINAL
Grover C. Penberthy, Detroit

UROLOGY
J. J. Crane, Los Angeles

UNITED STATES ARMY
Silas B. Hays

UNITED STATES NAVY
Clarence J. Brown

UNITED STATES AIR FORCE
William H. Powell Jr.

PUBLIC HEALTH SERVICE
Leonard A. Scheele

VETERANS ADMINISTRATION
Roy A. Wolford

There will be present also two students representing the Student American Medical Association.

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION, 1952-1953

PRESIDENT—Louis H. Bauer, Hempstead, N. Y.

PRESIDENT-ELECT—Edward J. McCormick, Toledo, Ohio.

VICE PRESIDENT—Leo F. Schiff, Plattsburg, N. Y.

SECRETARY AND GENERAL MANAGER—George F. Lull, Chicago.

ASSISTANT SECRETARY—Ernest B. Howard, Chicago

TREASURER—J. J. Moore, Chicago.

SPEAKER, HOUSE OF DELEGATES—James R. Reuling, Bayside, N. Y.

VICE SPEAKER, HOUSE OF DELEGATES—E. Vincent Askey, Los Angeles.

EDITOR—Austin Smith, Chicago.

BUSINESS MANAGER—Thomas R. Gardiner, Chicago.

BOARD OF TRUSTEES—E. S. Hamilton, Kankakee, Ill., 1953; G. Gundersen, LaCrosse, Wis., 1953; D. B. Allman, Atlantic City, N. J., 1954; F. J. L. Blasingame, Wharton, Texas, 1954; L. W. Larson, Bismarck, N. D., 1955; T. P. Murdock, Meriden, Conn., 1955; W. B. Martin, Norfolk, Va., 1956; D. H. Murray, Chairman, Napa, Calif., 1957; James R. McVay, Kansas City, Mo., 1957; the President and the President-Elect.

STANDING COMMITTEES OF THE HOUSE OF DELEGATES

JUDICIAL COUNCIL—J. B. Lukins, Louisville, Ky., 1953; E. R. Cunniffe, Chairman, New York, 1954; L. A. Buie, Rochester, Minn., 1955; W. F. Donaldson, Pittsburgh, 1956; H. L. Pearson Jr., Miami, Fla., 1957; G. F. Lull, Secretary, Chicago.

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS—Victor Johnson, Rochester, Minn., 1953; L. S. McKittrick, Boston, 1953; W. C. Pressly, Due West, S. C., 1954; C. T. Stone Sr., Galveston, Texas, 1954; Harvey B. Stone, Baltimore, 1955; J. M. Faulkner, Boston, 1955; Guy A. Caldwell, New Orleans, 1956; John W. Cline, San Francisco, 1956; F. D. Murphy, Lawrence, Kan., 1957; H. G. Weiskotten, Chairman, Skaneateles, N. Y., 1957; Donald G. Anderson, Secretary, Chicago.

COUNCIL ON SCIENTIFIC ASSEMBLY—H. R. Viets, Chairman, Boston, 1953; C. H. Phifer, Chicago, 1953; S. P. Reimann, Philadelphia, 1954; A. McMahon, St. Louis, 1954; C. A. Linske, Carrollton, Ohio, 1955; M. E. DeBakey, Houston, Texas, 1956; S. P. Newman, Denver, 1957; E. J. McCormick, Toledo, Ohio, ex officio.

COUNCIL ON MEDICAL SERVICE—James Q. Graves, Monroe, La., 1953; J. D. Hamer, Phoenix, Ariz., 1953; Joseph D. McCarthy, Omaha, 1954; H. B. Mulholland, Charlottesville, Va., 1955; C. E. Wertz, Buffalo, 1956; Elmer Hess, Chairman, Erie, Pa., 1957; Louis H. Bauer, Hempstead, N. Y.; John W. Cline, San Francisco; David B. Allman, Atlantic City, N. J.; Mr. Thomas A. Hendricks, Secretary, Chicago.

COUNCIL ON CONSTITUTION AND BY-LAWS—S. H. Osborn, Hartford, Conn., 1953; F. S. Winslow, Rochester, N. Y., 1954; B. E. Pickett Sr., Carrizo Springs, Texas, 1955; L. A. Buie, Chairman, Rochester, Minn., 1956; J. Steverson, Tulsa, Okla., 1957; E. S. Hamilton, Kankakee, Ill.; the President and the Speaker and Vice Speaker of the House of Delegates.

STANDING COMMITTEES OF THE BOARD OF TRUSTEES

COUNCIL ON PHARMACY AND CHEMISTRY—W. C. Cutting, San Francisco, 1953; Keith S. Grimson, Durham, N. C., 1953; Morris Fishbein, Chicago, 1953; Joseph Stokes Jr., Philadelphia, 1954; Perrin H. Long, Brooklyn, 1954; W. G. Workman, Bethesda, Md., 1954; J. Bordley III, Cooperstown, N. Y., 1954; Carl A. Dragstedt, Chicago, 1955; Isaac Starr, Philadelphia, 1955; Joseph Hayman, Cleveland, 1955; E. M. K. Geiling, Chicago, 1956; Elmer M. Nelson, Washington, D. C., 1956; Henry K. Beecher, Boston, 1956; Torald Sollmann, Chairman, Cleveland, 1957; James P. Leake, Washington, D. C., 1957; C. Guy Lane, Boston, 1957; Robert T. Stormont, Secretary, Chicago.

COUNCIL ON PHYSICAL MEDICINE AND REHABILITATION—M. A. Bowie, Swarthmore, Pa., 1953; Arthur L. Watkins, Boston, 1953; W. J. Zeiter, Cleveland, 1953; F. H. Krusen, Chairman, Rochester, Minn., 1954; Anthony C. Cipollaro, New York, 1954; Felix Butte, Dallas, Texas, 1954; O. Glasser, Cleveland, 1955; Shields Warren, Boston, 1955; Dettick Vail, Chicago, 1955; Frank R. Ober, Boston, 1956; D. M. Lierle, Iowa City, 1956; W. W. Coblentz, Washington, D. C., 1957; George M. Piersol, Philadelphia, 1957; Ralph E. DeForest, Secretary, Chicago.

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COUNCIL ON NATIONAL EMERGENCY MEDICAL SERVICE—Roscoe L. Sensenich, South Bend, Ind., 1953; Harold C. Lueth, Evanston, Ill., 1953; Harold S. Diehl, Minneapolis, 1954; Richard L. Meiling, Columbus, Ohio, 1954; A. A. Brindley, Toledo, Ohio, 1955; W. J. Baker, Chicago, 1955; Stafford L. Warren, Los Angeles, 1956; Herbert B. Wright, Cleveland, 1956; James C. Sargent, Chairman, Milwaukee, 1957; Perrin H. Long, Brooklyn, 1957; Mr. C. Joseph Stetler, Secretary, Chicago.

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COMMITTEE ON MENTAL HEALTH—W. H. Baer, Peoria, Ill., 1953; L. H. Bartemeier, Chairman, Detroit, 1953; L. H. Smith, Philadelphia, 1954; M. Levine, Cincinnati, 1954; F. M. Forster, Washington, D. C., 1955; H. T. Carmichael, Chicago, 1956; M. R. Kaufman, New York, 1957; R. J. Plunkett, Secretary, Chicago.

The Secretary, Assistant Secretary and Editor are ex officio members of all Standing Committees

NEW YORK—THE CONVENTION CITY

Thirteen years have passed since the American Medical Association held an annual session in New York City. The great metropolis is even greater, more dramatic, and more magnificent than it was in 1940. In the metropolitan area more than 11 million persons live and work, many of them traveling back and forth morning and night over and under its rivers, through its tunnels, and over multi-lane highways to their suburban homes. Within this area dwells perhaps the most cosmopolitan population on earth—more Irishmen than in Dublin, more persons of Italian birth than in Venice, more Jews than in Palestine. The vast majority of these persons of foreign extraction have been educated to American ideals and customs, and most of them speak English. There are, however, some 40 different languages and dialects spoken and written in New York City, and more than 20 newspapers published in different languages.

The city of New York comprises about 300 square miles and the New York metropolitan district about 3,700 square miles. In and closely beyond the metropolitan area are innumerable places of historical, architectural, cultural, and professional interest. Obviously, they cannot all be mentioned here, but the Information Center of the New York Convention and Visitors Bureau at 500 Park Avenue and the Police Information Booth on Times Square, which are open every day, have receptionists who will be happy to answer questions and give directions to visitors to all places about which they inquire. There are galleries filled with priceless art treasures, very old and modern churches, and miles of fascinating shops containing wares from our own and many other countries. A calendar of the current and changing events, which make New York City so attractive, may be obtained free of charge by writing to the New York Convention and Visitors Bureau.

SKYSCRAPERS

New York skyscrapers are among the marvels of the world. In addition to the Empire State Building, pictured on another page of this issue of THE JOURNAL, there are as as many as 50 skyscrapers, all marvels of beauty and distinction. New York has more than 4,000 buildings of 10 floors and more, 500 buildings of 20 floors and more, and 215 buildings ranging from 25 to 102 floors. The Chrysler Building, at Lexington Avenue and 42nd Street, for example, is 1,045 feet high, and the Woolworth Building, one of the older distinctive skyscrapers, is 792 feet high. Rockefeller Center in the fabulously valuable area from 48th to 51st streets, between 5th Avenue and the Avenue of the Americas in mid-Manhattan, contains the 70 story R.C.A. Building, whose slim beauty rises as the central theme of this development. Guided tours are available, not only for the Rockefeller Center development itself but through the N.B.C. radio and television broadcasting studios, which are housed in the R.C.A. Building.

FAMOUS BRIDGES

New York has been called the City of Bridges. These famous feats of engineering, providing 23 miles of over-water structures, were built at a cost of nearly 300 million dollars. The new Triborough Bridge with its approaches is 17½ miles long. Crossing the Hudson River at 178th Street to Fort Lee, New Jersey, is the George Washington Bridge, which is considered by many to be the most beautiful suspension bridge in the world. Across the East River are four great suspension bridges, including the Brooklyn Bridge, the first of the great ones to be built.

PUBLIC WATER SUPPLY

New York City goes 100 miles up into the Catskill Mountains to get its public water supply. There a great reservoir provides water as pure as in any large city in the world. The city has more than 400 hotels, with more than 160,000 rooms. The variety is such that, within reasonable limits, the visitor may spend as much or as little as he pleases for comfortable and attractive accommodations.

EDUCATIONAL FACILITIES

New York is the home of 37 institutions of higher education, including 5 medical schools, 13 general colleges and universities, 4 schools of theology, and several law schools. The largest university is New York University, which in the last school year had 65,388 students. The second largest is Columbia University, which had about 41,000 students. Other institutions of higher education include the College of the City of New York, which is city supported; Hunter College, also city supported; Fordham University, Manhattan College, Pratt Institute, and a host of technical, professional, musical, business, preparatory, and private institutions.

The city has about 900 public schools and more than 1,000 buildings used for public school purposes. There are also about 375 parochial schools. The city maintains 47 senior high schools, 30 vocational high schools, 22 evening high schools, and 10 evening trade schools.

MUSEUMS

In addition to the colleges, world famous museums contribute to education and culture. The Metropolitan Museum of Art, at 5th Avenue and 82nd Street, has magnificent exhibits of painting, sculpture, tapestries, laces, potteries, and antiques. The American Museum of Natural History, on 79th Street at Central Park West, has unusual exhibits of scientific interest. Here the history of man may be traced through eons of time. Among others are the Museum of French Art, the Museum of Modern Art, the Museum of Science and Industry, the Museum of the American Indian, the Museum of the New York Historical Society, and thousands of private and semi-public galleries that offer attractions to the visitor. The New York Botanical Gardens have an amazing collection of living flora gathered from all parts of the world, while the Bronx and Central Park Zoological Gardens have rare collections of living animals.

In the field of professional amusement, the city is foremost in America. There are about 100 theaters available for the production of musical and dramatic entertainment. Many of these theaters can be found between 42nd and 59th streets in Manhattan.

THE UNITED NATIONS

Among the newest attractions is the United Nations permanent headquarters, which occupies 18 acres between 42nd and 48th streets and First Avenue and the East River. The public

entrance is at the north end of the Assembly Building about at 46th Street. Guided tours of the headquarters operate every day from 9:30 a. m. until 6 p. m. The charge is $1.00 per person, 75¢ for adult groups, and 50¢ for students and military personnel. Tickets to meetings of the United Nations, available free of charge, are required to attend the plenary sessions or committee meetings. Reservations should be made in advance at the Admissions Office, United Nations, New York, or by telephone the day before to Plaza 4-1234, extension 634.

HOSPITALS

The first voluntary hospital in New York City was incorporated in 1771, and its name became in 1810 the Society of the New York Hospital. However, the Publick House and House of Correction was built by the city in 1736 on the site where the present City Hall stands. The first medical school in New York City was established in 1767 in connection with Kings College. By 1848 Bellevue Hospital had become an important teaching institution, and a medical school in connection with it was opened in 1861. As of Jan. 1, 1952, there were 170 hospitals and related facilities in the city, with 47,475 beds, of which 5,077 were for chronic disease, 6,112 were for tuberculosis, 1,637 for mental disease, 606 for convalescence and rehabilitation, and 580 for acute communicable disease. Hospitals operated under state or federal control were not included in this inventory. The municipal hospitals provide 38% of the total beds. The proprietary hospitals provided 11% of the general care beds. The voluntary hospitals provided somewhat more than one-half of the total beds for all types of care. Almost all the institutions for convalescent care serving the city are outside the city limits. The hospital ambulance service of the city is extensive, and all the ambulances operated by the voluntary and municipal hospitals are under the supervision of the municipal department of hospitals. The city pays to the voluntary hospitals a stipulated sum per ambulance annually.

AFTER THE CONVENTION

Those who desire to take a vacation after the annual session will find good roads leading out of the city from every direction. A visit to West Point, not far up the Hudson River, can be made by boat as well. The Adirondack Mountains are not far away nor is beautiful and historic New England and many other historical places nearby to the North, South and West. Thus, the 1953 annual meeting of the American Medical Association in New York City will afford not only an exceptional opportunity for professional advancement, but possibly the opening phase of a glorious vacation.

TRANSPORTATION

It is suggested that those physicians who contemplate traveling to New York to attend the annual meeting of the Association secure information concerning railroad and airplane travel directly from their local ticket agents, who are in a position to give them information regarding train or plane schedules and fares.

REGISTRATION

The Registration Bureau will be located on the first floor, Lexington Avenue entrance of Grand Central Palace. An information bureau will be operated in connection with the Registration Bureau.

Who May Register

Members—Active, Affiliate, Associate, Service, and Honorary—and invited guests may take part in the work of the sections and may register for attendance at meetings.

Active members in good standing in the American Medical Association are those members of component county medical societies and of constituent state and territorial medical associations whose names are officially reported for enrolment to the Secretary of the American Medical Association by the secretaries of the constituent medical associations and who have paid their annual American Medical Association membership dues, which this year are $25, to be paid through their constituent state medical associations.

Residents, interns, students, nurses, and technicians will receive cards to fill in. These should be presented, at the window indicated, with a card or letter signed by the superintendent of the hospital where they are registered, or the dean of the medical school they attend.

Register Early

Members living in the New York area, as well as all other physicians who are in New York on Sunday and Monday, should register as early as possible. They may register on Sunday, May 31, between 10 a. m. and 4 p. m.

The names and New York addresses of those who register will be included in the issue of the *Daily Bulletin* appearing the next day, and this will enable visiting physicians to find friends who have registered.

Suggestions That Will Facilitate Registration

Members who have Advance Registration Cards with pocket cards can be registered with little or no delay. They should fill in the following information prior to registration:

Hotel, number of guests, signature, and also check one scientific section.

Present filled in card with your American Medical Association Membership pocket card at windows marked "Advance Registration." Your pocket card will be returned to you and you will receive a badge and a copy of the Official Program.

Members without Advance Registration Cards will be given blank cards to fill out and clerks will be on hand to direct them to the proper windows for registering. They will receive a badge and a copy of the Official Program.

Registration for General Officers and Delegates At the Waldorf-Astoria Hotel

General officers of the American Medical Association and members of the House of Delegates may register for the Scientific Assembly at the East Foyer entrance to the Grand Ballroom of the Waldorf-Astoria Hotel. This arrangement is made for the convenience of members of the House of Delegates, which will convene on Monday morning at 10 o'clock in the Grand Ballroom of the Waldorf-Astoria. Delegates are requested to register for the Scientific Assembly before presenting credentials to the Reference Committee on Credentials of the House of Delegates. Registration of delegates for the Scientific Assembly will begin at 8 o'clock Monday morning, June 1, and delegates are urged to register early so that all members of the House of Delegates may be seated in time for the opening session of the House. If any delegate or officer is in New York on Sunday, May 31, he may register for the Scientific Assembly in the East Foyer of the Grand Ballroom at the Waldorf-Astoria.

Registration for Lay Executive Secretaries

Lay executive secretaries of component and constituent associations may register any time Saturday or Sunday, May 30 or 31, or any time after 12 noon Monday, June 1, during the week of the session at the House of Delegates registration desk in the Waldorf-Astoria.

MEETING PLACES

HOUSE OF DELEGATES: Grand Ballroom, Waldorf-Astoria Hotel, Park Avenue at 50th Street.

GENERAL SCIENTIFIC MEETINGS: Grand Ballroom, Commodore Hotel, Lexington Avenue at 42nd Street.

INAUGURAL MEETING: Grand Ballroom, Commodore Hotel.

GENERAL HEADQUARTERS, REGISTRATION BUREAU, SCIENTIFIC EXHIBIT, TECHNICAL EXHIBITS AND INFORMATION BUREAU: Grand Central Palace, Lexington Avenue between 46th and 47th streets.

SECTIONS ON SCIENTIFIC ASSEMBLY

ANESTHESIOLOGY: Jade Room, Waldorf-Astoria Hotel.

DERMATOLOGY AND SYPHILOLOGY: Baroque Room, Belmont Plaza Hotel.

DISEASES OF THE CHEST: North Ballroom, New Yorker Hotel.

EXPERIMENTAL MEDICINE AND THERAPEUTICS: Ballroom, Biltmore Hotel.

GASTRO-ENTEROLOGY AND PROCTOLOGY: Grand Ballroom, New Yorker Hotel.

GENERAL PRACTICE: Ballroom, Biltmore Hotel.

INTERNAL MEDICINE: Grand Ballroom, Commodore Hotel.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY: Jade Room, Waldorf-Astoria Hotel.

MILITARY MEDICINE: North Ballroom, Astor Hotel.

MISCELLANEOUS TOPICS, SESSION ON ALLERGY: Basildon Room, Waldorf-Astoria Hotel.

NERVOUS AND MENTAL DISEASES: Grand Ballroom, New Yorker Hotel.

OBSTETRICS AND GYNECOLOGY: Town Hall.

OPHTHALMOLOGY AND ASSOCIATION FOR RESEARCH IN OPHTHALMOLOGY: Astor Gallery, Waldorf-Astoria Hotel.

ORTHOPEDIC SURGERY: Moderne Room, Belmont Plaza Hotel.

PATHOLOGY AND PHYSIOLOGY: Baroque Room, Belmont Plaza Hotel.

PEDIATRICS: Grand Ballroom, Commodore Hotel.

PHYSICAL MEDICINE AND REHABILITATION: North Ballroom, New Yorker Hotel.

PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH: Basildon Room, Waldorf-Astoria Hotel.

RADIOLOGY: Moderne Room, Belmont Plaza Hotel.

SURGERY, GENERAL AND ABDOMINAL: Town Hall.

UROLOGY: North Ballroom, Astor Hotel.

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GERVAIS M. MCAULIFFE, Immediate Past President, Medical Society of the County of New York.
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ENTERTAINMENT

Inaugural Meeting

The Inaugural Meeting, at which the President will be installed, will be held in the Grand Ballroom of the Commodore Hotel, Tuesday evening, June 2. The Doctors' Symphony Orchestra of New York will furnish the music for the ceremony, and the President's address will be broadcast.

President's Reception and Ball

The President of the Association will be honored after the Inaugural Meeting with a reception and ball, to be held in the East Ballroom of the Commodore Hotel, Tuesday evening, June 2.

Luncheons, Dinners and Meetings of Fraternity, Alumni and Other Organizations

Alpha Kappa Alpha, Luncheon, Waldorf-Astoria, Wednesday, June 3, 12:30 p. m.

Alpha Mu Pi Omega, Luncheon, Wednesday, June 3, 12:00 noon. Place to be announced.

Alpha Omega Alpha, Dinner, Waldorf-Astoria, Thursday, June 4, 6:30 p. m.

American Physicians Fellowship Committee, Annual Assembly, Hotel New Yorker, Monday, June 1, 8:15 p. m.

Boston University Medical Alumni Association, Luncheon, Hotel Shelton, Thursday, June 4, 12:30 p. m.

College of Medical Evangelists, Dinner, Beekman Tower Hotel, Wednesday, June 3, 7:00 p. m.

Cornell University Medical College Alumni Association, Luncheon, College Dining Room, Thursday, June 4, 1:00 p. m.

Creighton University Alumni, Dinner, Hotel New Yorker, Wednesday, June 3, time to be announced.

Duke Medical Alumni Association, Dinner, Waldorf-Astoria, Wednesday, June 3, 6:30 p. m.

Federation of Catholic Physicians' Guilds, Luncheon, Hotel Commodore, Wednesday, June 3, 12:30 p. m.

GEORGETOWN UNIVERSITY ALUMNI ASSOCIATION, Luncheon, Biltmore, Wednesday, June 3, 12:30 p. m.

HAHNEMANN MEDICAL COLLEGE AND HOSPITAL ALUMNI ASSOCIATION, Dinner, Hotel Roosevelt, Wednesday, June 3, 6:30 p. m.

HARVARD MEDICAL ALUMNI ASSOCIATION, Dinner, Park Lane, Wednesday, June 3, 6:30 p. m.

JEFFERSON MEDICAL COLLEGE ALUMNI ASSOCIATION, Dinner, Hotel Commodore, Wednesday, June 3, 6:30 p. m.

JOHNS HOPKINS ALUMNI ASSOCIATION, Dinner, Waldorf-Astoria, Wednesday, June 3, 6:00 p. m.

LOYOLA UNIVERSITY ALUMNI ASSOCIATION, Luncheon, Waldorf-Astoria, Thursday, June 4, 12:15 p. m.

MARQUETTE MEDICAL ALUMNI ASSOCIATION, Dinner, Columbia University Club, Thursday, June 4, 6:30 p. m.

MAYO ALUMNI ASSOCIATION, Luncheon, Hotel Commodore, Wednesday, June 3, 12:30 p. m.

NEW YORK MEDICAL COLLEGE ALUMNI ASSOCIATION, Open House, Waldorf-Astoria, Wednesday, June 3, 4:30 to 6:30 p. m.

NORTHWESTERN UNIVERSITY (MEDICAL DIVISION) ALUMNI ASSOCIATION, Luncheon, Waldorf-Astoria, Thursday, June 4, 12:30 p. m.

OHIO STATE UNIVERSITY MEDICAL ALUMNI ASSOCIATION, Dinner, Hapsburg House, Wednesday, June 3, 7:00 p. m.

PHI ALPHA SIGMA FRATERNITY, Luncheon, Vanderbilt Hotel, Wednesday, June 3, 12:30 p. m.

PHI BETA PI FRATERNITY, Luncheon, Waldorf-Astoria, Wednesday, June 3, 12:00 noon.

PHI CHI MEDICAL FRATERNITY, Luncheon, Lexington Hotel, Wednesday, June 3, 12:00 noon.

PHI DELTA EPSILON FRATERNITY, Open House, Hotel Statler, Thursday, June 4, 9:00 p. m.

PHI LAMBDA KAPPA FRATERNITY, Dinner Dance, Essex House, Thursday, June 4, 9:00 p. m.

PHI RHO SIGMA FRATERNITY, Luncheon, Lexington Hotel, Wednesday, June 3, 12:30 p. m.

RUSH MEDICAL COLLEGE ALUMNI ASSOCIATION, Dinner, Hotel Commodore, Wednesday, June 3, 7:00 p. m.

ST. LOUIS UNIVERSITY SCHOOL OF MEDICINE ALUMNI ASSOCIATION, Dinner, Waldorf-Astoria, Wednesday, June 3, 6:00 p. m.

TEMPLE UNIVERSITY MEDICAL ALUMNI ASSOCIATION, Luncheon, Hotel Commodore, Wednesday, June 3, 12:30 p. m.

TUFTS MEDICAL ALUMNI ASSOCIATION, Dinner Meeting, Hotel Commodore, Wednesday, June 3, 6:30 p. m.

UNIVERSITY OF CHICAGO SCHOOL OF MEDICINE ALUMNI ASSOCIATION, Luncheon, Waldorf-Astoria, Thursday, June 4, 12:00 noon.

UNIVERSITY OF NEBRASKA COLLEGE OF MEDICINE ALUMNI ASSOCIATION, Dinner, Hotel Roosevelt, Wednesday, June 3, 6:30 p. m.

UNIVERSITY OF PENNSYLVANIA MEDICAL ALUMNI ASSOCIATION, Dinner, Waldorf-Astoria, Wednesday, June 3, 6:30 p. m.

UNIVERSITY OF VERMONT MEDICAL ALUMNI ASSOCIATION, Dinner, Columbia University Club, Wednesday, June 3, 6:00 p. m.

WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA ALUMNAE ASSOCIATION, Dinner, Fifth Avenue Hotel, Wednesday, June 3, 7:00 p. m.

WOMAN'S AUXILIARY, Annual Dinner, Waldorf-Astoria, Wednesday, June 3, 6:00 p. m., Speaker, the Honorable Mrs. Ivy B. Priest, Treasurer of the United States.

Physicians Art Exhibit

The 20th exhibit of the American Physicians Art Association will display about 500 art pieces, in 20 different media, in Booth I-27 of the Technical Exposition in Grand Central Palace during the New York meeting. Additional pieces will be shown at the Plaza Art Galleries, 9-13 East 59th Street, New York.

Numerous elaborate prizes in each medium will be awarded at the annual art banquet to be held at the Commodore Hotel on Tuesday, June 2, at 6:30 p. m., at which noted speakers will give a short address. Detailed information may be obtained from Dr. Francis H. Redewill, 760 Market St., San Francisco 2, or at the Hotel Commodore during the meeting.

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GOLF TOURNAMENT

The American Medical Golfing Association will hold its 37th tournament on Monday, June 1, the opening day of the 1953 American Medical Association Annual Meeting in New York. The beautiful and challenging Swianoy Golf Club in Bronxville has been reserved for the medical golfers' tournament and annual meeting. Dinner will be served at 7 p. m. and will be followed by presentation of the many trophies and prizes.

The Detroit Trophy

Fellows may tee off between 7:30 a. m. and 2 p. m. Luncheon will be served at the club where the tournament is played. Transportation has been arranged so that members may go by bus, private car, or train. Members staying at hotels will be within easy walking distance of Grand Central Station, and train time is 28 minutes to Bronxville Station and one-half hour by car.

Events

The officers and local Committee on Arrangements have developed a program of events so that all players will have an opportunity to win a prize. Championship and the Interstate Four Man Team Competition will be determined on low gross scores. Classes, specialties, and the over 60 age group will compete on the basis of net scores determined by certified handicaps.

New York Committee on Arrangements

The New York Committee on Arrangements is under the chairmanship of Joseph E. Corr, 642 Park Avenue, New York City. He is being assisted by the following doctors: Philip Allen, James Daniels, Percy Eglee, Frederick Kassebohm, Lawson Miller, George Stuart, Eugene Traub, and Fredrick Williams.

Thomas A. Kyner, Kansas City, is president of the A. M. G. A., and D. H. Houston, Seattle, is permanent chairman of the Advisory Committee of the association.

For Further Details

Those members of the American Medical Association who are not fellows of the Golfing Association and are interested in securing further details of this year's annual tournament are urged to write to Bob Elwell, Secretary, 3101 Collingwood Blvd., Toledo 10, Ohio. Participants in the tournament are required to present their home club handicap, signed by the club secretary, or to accept a handicap set by the handicap committee. No handicap over 30 is allowed.

WOMAN'S AUXILIARY

A cordial invitation is extended to all members of the Woman's Auxiliary to the American Medical Association, their guests, and the guests of physicians attending the convention of the American Medical Association, to participate in all social functions and attend the general meetings of the Auxiliary.

Headquarters will be at the Hotel Statler. Tickets will be available at the registration desk only. Please register early and obtain your badge and program.

Preconvention Schedule

SUNDAY, MAY 31

12:00 noon to 4:00 p. m. Registration—Grand Ballroom Foyer, Hotel Statler.

The members of the Hospitality Committee will welcome members and guests of the Woman's Auxiliary.

Committee Meetings

1:00 p. m. Finance Committee—Conference Room 8 (mezzanine floor). Mrs. Scott C. Applewhite, Chairman.

1:00 p. m. Nominating Committee—Conference Room 2 (mezzanine floor). Mrs. Harold F. Wahlquist, Chairman.

2:30 p. m. Resolutions Committee—Conference Room 3 (mezzanine floor). Mrs. William Mackersie, Chairman.

3:30 p. m. Revisions Committee—Conference Room 4 (mezzanine floor). Mrs. Robert Flanders, Chairman.

MONDAY, JUNE 1

ROUND TABLE DISCUSSIONS

PENN TOP (18th FLOOR)

Members Invited

9:00 a. m. to 10:00 a. m. Program. Mrs. E. M. Egan, Chairman.

10:00 a. m. to 11:00 a.m. Legislation. Mrs. Edgar E. Quayle, Chairman.

11:00 a. m. to 12:30 p. m. Public Relations. Mrs. Neil W. Woodward, Chairman.

2:00 p. m. to 3:00 p. m. Today's Health. Mrs. R. F. Stover, Chairman.

Board of Directors Meeting and Luncheon

8:00 a. m. Meeting. Conference Room 4 (mezzanine floor). Mrs. Ralph B. Eusden, President, presiding.

12:30 p. m. Luncheon. Parlor C (Ballroom floor).

3:30 p. m. to 5:30 p. m. Tea. Grand Ballroom. Honoring Mrs. Ralph B. Eusden, President, and Mrs. Leo J. Schaefer, President-Elect.

Invited guests: Members of the National Board of Directors, National Committee Chairmen, State Presidents and Presidents-Elect, Wives of Officers of the Medical Society of the State of New York, Wives of Presidents of the Component County Medical Societies, and wives of officers and trustees, American Medical Association.

All wives of physicians are cordially invited.

Hosts: The Medical Society of the State of New York and its Auxiliary.

Tickets $2.00 (tax and gratuity included).

Convention Program

9:00 a. m. TUESDAY, JUNE 2

Formal opening of the Thirtieth Annual Meeting of the Woman's Auxiliary to the American Medical Association, Grand Ballroom, Hotel Statler. Mrs. Ralph B. Eusden, President, presiding.

Invocation. His Eminence Francis Cardinal Spellman, Archbishop of New York.

Pledge of Loyalty to the Woman's Auxiliary to the American Medical Association, Mrs. Arthur A. Herold, Past President, National Auxiliary.

Greetings. John H. Garlock, M.D., President, New York County Medical Society. J. Stanley Kenney, M.D., General convention chairman, American Medical Association.

Address of Welcome. Mrs. Harry I. Norton, President, Woman's Auxiliary to the Medical Society of the State of New York.

Response. Mrs. Floyd K. Anderson, President, Woman's Auxiliary to the Los Angeles County Medical Society.

Presentation of Convention Chairmen. Mrs. William J. Lavelle, Mrs. Adolph H. Emerson.

Introductions. Mrs. Ralph B. Eusden, President.

Presentation of President-Elect. Mrs. Leo J. Schaefer.

Roll Call. Mrs. C. H. Mitchell, Constitutional Secretary.

The American Museum of Natural History, Central Park West at 79th Street.

Credentials and Registration. Mrs. Hugh G. Henry.

Convention Rules of Order. Mrs. Arthur J. Nies.

Presentation of Program.

Address of the President. Mrs. Ralph B. Eusden.

REPORTS OF THE OFFICERS

President-elect, Mrs. Leo J. Schaefer.

First Vice-President, Mrs. George Turner.

Second Vice-President, Mrs. Theodore E. Heinz.

Third Vice-President, Mrs. F. Erwin Tracy.

Fourth Vice-President, Mrs. James M. McDonnough.

Treasurer (including report of auditor), Mrs. Mason G. Lawson.

Constitutional Secretary, Mrs. C. H. Mitchell.

Presentation of National Directors.

12:30 p. m.

Luncheon in honor of the Past Presidents of the Woman's Auxiliary to the American Medical Association, Georgian Room (Ballroom floor).

Mrs. Ralph B. Eusden, President, presiding.

Guest Speaker: Dr. Kenneth McFarland, Educational Director, American Trucking Associations, Inc., "Fathoming the Fifties."

Tickets $4.25 (tax and gratuity included).

2:30 p. m. AFTERNOON SESSION

Report of the Board of Directors. Mrs. Ralph B. Eusden.

Report of the Resolutions Committee (first reading). Mrs. William Mackersie, Chairman.

Election of the 1954 Nominating Committee.

State Reports—Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri.

Reports of Chairmen of Standing Committees:

Finance, Mrs. Scott C. Applewhite.

Legislation, Mrs. Edgar E. Quayle.

Organization, Mrs. George Turner.

Program, Mrs. E. M. Egan.

Report of the Nominating Committee of 1953 (first reading), Mrs. Harold F. Wahlquist, Chairman.

Report of election of 1954 Nominating Committee.

7:00 p. m.

Opening Meeting of the American Medical Association, Grand Ballroom, Hotel Commodore.

9:00 p. m.

Reception and Ball in honor of the President of the American Medical Association, East Ballroom, Hotel Commodore.

Members of the Woman's Auxiliary and guests are cordially invited.

9:00 a. m. WEDNESDAY, JUNE 3

General Session of the Woman's Auxiliary to the American Medical Association, Grand Ballroom.

Mrs. Ralph B. Eusden, President, presiding.

Minutes. Mrs. C. H. Mitchell.

Convention Announcements. Mrs. William J. Lavelle, Mrs. Adolph H. Emerson.

Credentials and Registration. Mrs. Hugh G. Henry.

In Memoriam. Mrs. Bradford Murphey.

State Reports—Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming.

Reports of Chairmen of Standing Committees (continued)

Publications. Mrs. James P. Simonds.

Public Relations. Mrs. Neil W. Woodward

Revisions. Mrs. Robert Flanders.

Today's Health. Mrs. R. F. Stover.

Reports of Chairmen of Special Committees.

American Medical Education Foundation. Mrs. Frank Gastineau.

Bulletin Circulation. Mrs. William E. Dodd.

Civil Defense. Mrs. Charles W. Steele.

Library Service. Mrs. Eustace A. Allen.

Nurse Recruitment. Mrs. Harold B. Johnson.

Reference. Mrs. Rollo K. Packard.

12:15 p. m.

Annual Luncheon in honor of Mrs. Ralph B. Eusden, President, and Mrs. Leo J. Schaefer, President-Elect, Georgian Room.

Mrs. David B. Allman, Past President, presiding.

Guest Speakers: Dr. Louis Bauer, President, and Dr. Edward J. McCormick, President-Elect, American Medical Association.

Guests of Honor: Dr. George F. Lull, Secretary and general manager, American Medical Association; Dr. Ernest B. Howard, Asst. Secretary; Dr. J. J. Moore, Treasurer; Dr. Austin Smith, Editor; and members of the Board of Trustees, Dr. Dwight Murray, Chairman; Dr. E. S. Hamilton, Dr. Gunnar Gundersen, Dr. David B. Allman, Dr. F. J. L. Blasingame, Dr. L. W. Larson, Dr. T. P. Murdock, Dr. Walter B. Martin, and Dr. James R. McVay.

Tickets $4.25 (tax and gratuity included).

3:00 p. m. AFTERNOON SESSION

Report of Historian. Mrs. Jesse D. Hamer.

Report of Central Office. Miss Margaret N. Wolfe, Executive Secretary.

Unfinished Business.

New Business. Revisions to the constitution and bylaws. Mrs. Robert Flanders, Chairman.

9:00 a. m. THURSDAY, JUNE 4

General Session of the Woman's Auxiliary to the American Medical Association, Grand Ballroom.

Mrs. Ralph B. Eusden, President, presiding.

Minutes. Mrs. C. H. Mitchell.

Convention Announcements. Mrs. William J. Lavelle, Mrs. Adolph H. Emerson.

Credentials and Registration. Mrs. Hugh G. Henry.

New Business (continued).

Resolutions (second reading). Mrs. William Mackersie.

Convention Courtesy Resolutions. Mrs. Thomas M. d'Angelo.

Report of the Nominating Committee. Mrs. Harold F. Wahlquist.

Election of Officers

Installation of Officers. Mrs. David W. Thomas.

Presentation of Past President's Pin. Mrs. Rollo K. Packard.

Presentation of President's Pin and Gavel. Mrs. Ralph B. Eusden.

Inaugural Address. Mrs. Leo J. Schaefer.

Minutes

Adjournment

2:00 p. m. AFTERNOON SESSION

Meeting of the Board of Directors, Conference Room 4 (mezzanine floor).

Mrs. Leo J. Schaefer, President, presiding.

EVENING SESSION

Annual Dinner of the Woman's Auxiliary to the American Medical Association for members, husbands and guests, Hotel Waldorf-Astoria. Dress optional. Mrs. William J. Lavelle, presiding.

6:00 p. m.

Social Hour.

Dinner.

Guest Speaker: The Honorable Mrs. Ivy B. Priest, the treasurer of the United States.

Tickets $7.50 (tax and gratuity included).

9:00 a. m. FRIDAY, JUNE 5

Conference of National Officers, Directors, and Committee Chairmen with State Presidents and Presidents-Elect, Georgian Room (Ballroom floor).

Mrs. Leo J. Schaefer, President, presiding.

Local Committee on Convention Arrangements

General Chairman, Mrs. William J. Lavelle,

Co-Chairman, Mrs. Adolph H. Emerson

HONORARY COMMITTEE

Mrs. Luther H. Kice
Mrs. John L. Bauer
Mrs. Louis H. Bauer
Mrs. Andrew A. Eggston
Mrs. J. Stanley Kenney
Mrs. Harry I. Norton
Mrs. Edward T. Wentworth
Mrs. Thomas M. d'Angelo

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CONVENTION COMMITTEE

Mrs. Alfred L. Madden — Mrs. Harry F. Pohlmann
Mrs. J. Emerson Noll — Mrs. Daniel J. Swan

TEA COMMITTEE

Mrs. Alfred L. Madden, Chairman
Mrs. Thomas M. d'Angelo, Co-Chairman

Mrs. Sol Axelrad — Mrs. Julius P. Gale
Mrs. Herbert Berger — Mrs. John Hunter
Mrs. Joseph A. Caravella — Mrs. Sidney Neichin
Mrs. Charles F. Fisher — Mrs. Walter Schmitz

COMMITTEE FOR LUNCHEON IN HONOR OF PAST PRESIDENTS

Mrs. Harry F. Pohlmann, Chairman
Mrs. Herman Galster, Co-Chairman

Mrs. Emilio Iorio — Mrs. Robert Lucey
Mrs. Robert Hewson — Mrs. Paul V. Brinley

COMMITTEE FOR LUNCHEON IN HONOR OF PRESIDENT AND PRESIDENT-ELECT

Mrs. Daniel J. Swan, Chairman
Mrs. R. L. H. Murphy, Co-Chairman

Mrs. Samuel Berson — Mrs. Cyril Levin
Mrs. George Brooks — Mrs. Calvin Nicholas
Mrs. Harold W. Draffen — Mrs. John L. Redmond
Mrs. John Hooley — Mrs. William Seldeen
Mrs. Fred R. Small

ANNUAL DINNER COMMITTEE

Mrs. J. Emerson Noll, Chairman
Mrs. Albert VanderVeer II, Co-Chairman

Mrs. Charles M. Brane — Mrs. Louis Harris
Mrs. Henry Fineberg — Mrs. John Snider

FINANCE COMMITTEE

Mrs. Arthur F. Holding, Chairman

JUNIOR AIDES COMMITTEE

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Mrs. Charles Yarington, Co-Chairman

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Mrs. James R. DeRose — Mrs. Joseph Sartori
Mrs. Joseph Diamond — Mrs. Wilbur Stakes
Mrs. Walter Evans — Mrs. William Sullivan
Mrs. Royal Howard — Mrs. Charles Tilley
Mrs. Edward A. Braunstein — Mrs. S. Averett Arnold

TICKETS COMMITTEE

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Mrs. Abraham M. Sands, Co-Chairman

Mrs. George Abeloff — Mrs. William Levine
Mrs. H. H. Beinfield — Mrs. Frank E. Mallon
Mrs. Louis Berger — Mrs. Milton Matzner
Mrs. Adolph Bien — Mrs. Richard Perlini
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Mrs. William J. Flanagan — Mrs. Stanley C. Rau
Mrs. B. L. Fierstein — Mrs. Samuel Reback
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Mrs. Mortimer Kopp — Mrs. William Woolner

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Mrs. Leif G. Jensen, Co-Chairman

Mrs. John Beck — Mrs. C. Fallon
Mrs. Caesar DeRostang — Mrs. Sol Feinstein
Mrs. John N. Dill — Mrs. Victor Fimia
Mrs. James D'Wolfe — Mrs. Dennis R. Gillen
Mrs. Morris Horowitz — Mrs. George J. Price
Mrs. Henry Kaessler — Mrs. David Shepard
Mrs. Aaron Kottler — Mrs. H. Snyder
Mrs. Joseph E. Paganelli — Mrs. Eugene Spencer
Mrs. Louis Pellman — Mrs. A. J. Trattler
Mrs. Adrian Persico — Mrs. Alvin Turken
Mrs. F. Petrelli — Mrs. J. Van Zandt
Mrs. Ezra Wolff

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Mrs. John L. Mason, Co-Chairman

Mrs. William Carhart — Mrs. Gerald Pauley
Mrs. John DeHoff — Mrs. Adrian Donnelly
Mrs. Martin Rudoy

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Mrs. Gustin T. Kiffney, Co-Chairman

Mrs. Henry A. Crane — Mrs. William Moitrier, Jr.
Mrs. Jacob Dranitzke — Mrs. William F. Rexer
Mrs. Allen N. Greenwood — Mrs. Edward Robitzek
Mrs. Warren Lapp — Mrs. Theodore J. Talbot

Lower Manhattan at Night

FLOWER COMMITTEE

Mrs. Edwin A. Griffen, Chairman
Mrs. Joseph Squillace, Co-Chairman

Mrs. Milton Bergmann — Mrs. Lawrence E. Viola

HOSPITALITY COMMITTEE

Mrs. Frederic Elliott, Chairman
Mrs. John Goller, Co-Chairman

Mrs. V. V. Bourke — Mrs. Phillip Faivre
Mrs. M. J. Dattelbaum — Mrs. Edwin P. Kolb
Mrs. Walter Woodward

PRESS AND PUBLICITY COMMITTEE

Mrs. Isadore Zadek, Chairman
Mrs. D. A. Ajello, Co-Chairman

Mrs. Lewis D. Foote — Mrs. John Mauro

MUSIC COMMITTEE

Mrs. Colgate Phillips, Chairman
Mrs. Patrick DeCanio, Co-Chairman

HEADQUARTERS COMMITTEE

Mrs. Abraham Braunstein, Chairman
Mrs. George Bergmann, Co-Chairman

Mrs. E. N. Cartnick — Mrs. Jules Lessem
Mrs. Harold Dunlap — Mrs. Edwin P. Kane
Mrs. William K. Haas — Mrs. Alfred T. Perrine
Mrs. Michael Pollack

National Committees

NOMINATING: Mrs. Harold F. Wahlquist, Chairman, Mrs. Herbert W. Johnson, Mrs. Albert F. Doyle, Mrs. Alfred F. Burnside, Mrs. F. W. Hubbard, Mrs. B. R. Bancroft, Mrs. Francis M. Fargher.

RESOLUTIONS: Mrs. William Mackersie, Chairman, Mrs. S. W. Parks, Mrs. C. David Lambird, Mrs. Hubert T. Goodman, Mrs. Raymond Zech.

CONVENTION COURTESY RESOLUTIONS: Mrs. Thomas M. d'Angelo, Chairman, Mrs. Carl Burkland, Mrs. Robert E. Pfuetze.

READING: Mrs. James P. Simonds, Chairman, Mrs. Arthur J. Nies, Mrs. C. H. Mitchell, Miss Margaret Wolfe.

ELECTION: Mrs. Ralph Fowler, Mrs. I. Joseph Waxse, Mrs. David W. Barrow.

TELLERS: Mrs. Edward B. Hoeven, Mrs. E. W. Coyle, Mrs. Henry Christiansen.

TIMEKEEPERS: Mrs. H. David Hickey, Mrs. Frederic H. Steele, Mrs. James P. Donelan.

Auxiliary Headquarters

535 North Dearborn Street
Chicago 10, Illinois

Margaret N. Wolfe, Executive Secretary.

PROGRAM OF THE SCIENTIFIC ASSEMBLY

GENERAL SCIENTIFIC MEETINGS

GRAND BALLROOM, COMMODORE HOTEL

Monday, June 1—9 a. m.

ALPHONSE MCMAHON, Member of Council on Scientific Assembly, Presiding

9:00 a. m. **Pregnancy, Lactation, Growth and Aging as Special Stress Factors on Nutritional Processes.**

TOM D. SPIES, Scientific Director, Nutrition Clinic of Hillman Hospital, Birmingham, Ala.

9:45 a. m. **Treatment of Hodgkin's Disease and the Lymphosarcomas.**

OVID O. MEYER, Professor of Medicine, University of Wisconsin, Madison, Wis.

10:30 a. m. **Tissue Culture in the Service of Clinical Medicine.**

C. M. POMERAT, Professor of Cytology and Director of Tissue Culture Laboratory, University of Texas Medical Branch, Galveston, Texas.

11:15 a. m. **Medical Management of Hypertension.**

HENRY A. SCHROEDER, Associate Professor of Medicine, Washington University School of Medicine, St. Louis.

Monday, June 1—2 p. m.

MICHAEL E. DEBAKEY, Member of Council on Scientific Assembly, Presiding

2:00 p. m. **Postoperative Adrenal Insufficiency in Patients Who Have Taken Cortisone Prior to Surgery.**

F. RAYMOND KEATING JR., Associate Professor of Medicine, Mayo Foundation, Graduate School, University of Minnesota, Rochester, Minn., and

WARREN A. BENNETT, Assistant Professor of Pathology, Mayo Foundation, Graduate School, University of Minnesota, Rochester, Minn.

2:45 p. m. **Today's Medicine in Underdeveloped Areas.**

JOHN Z. BOWERS, Dean, College of Medicine, University of Utah, Salt Lake City, Utah.

3:30 p. m. **Interdependence of the Medical Profession and the Pharmaceutical Manufacturers.**

ELMER L. SEVRINGHAUS, Director of Clinical Research, Hoffmann-LaRoche, Inc., Nutley, N. J.

4:15 p. m. **Treatment of Advanced Mammary Cancer.**

CHARLES B. HUGGINS, Director of the Ben May Laboratory for Cancer Research, University of Chicago, Chicago, and

THOMAS L-Y. DAO, Instructor in Surgery, University of Chicago, Chicago.

Friday, June 5—9 a. m.

TODAY'S MEDICINE FOR TOMORROW'S PATIENT

CHARLES GORDON HEYD, Past President, American Medical Association, Moderator

9:00 a. m. **Atomic Medicine for Tomorrow's Patient.**

JOHN Z. BOWERS, Dean, College of Medicine, University of Utah, Salt Lake City.

How Can We Protect the Youth of Today Against the Heart Ills of Tomorrow?

PAUL D. WHITE, Past President, American Heart Association, Boston.

Today's Chemicals for Tomorrow's Patient.

ARTHUR P. RICHARDSON, Associate Dean, Emory University School of Medicine, Emory University, Ga.

Today's Treatment of the Premature Infant.

WOODRUFF L. CRAWFORD, Assistant Clinical Professor of Pediatrics, University of Illinois College of Medicine, Rockford, Ill.

Today's Treatment for the Gastric and Duodenal Ulcer Patient.

ARTHUR W. ALLEN, Past President, American Surgical Association, Boston.

The Role of the Hospital in the Medical Care of Tomorrow's Patient.

ALBERT W. SNOKE, Director, Grace-New Haven Community Hospital, New Haven, Conn.

10:15 a. m. **Discussion from the floor.**

THE PROGRAMS OF THE SECTIONS

OUTLINE OF THE SCIENTIFIC PROCEEDINGS

The following papers are announced to be read before the various sections. The order here is not necessarily the order that will be followed in the Official Program. The Official Program will be similar to the programs issued in previous years and will contain the final program of each section with abstracts of the papers, as well as lists of committees, program of the Inaugural Meeting, list of entertainments and other information. To prevent misunderstandings and protect the interest of advertisers, it is here announced that this Official Program will contain no advertisements. It is copyrighted by the American Medical Association and will not be distributed before the session. A copy will be given to each physician on registration.

SECTION ON ANESTHESIOLOGY

MEETS IN JADE ROOM OF THE WALDORF-ASTORIA

OFFICERS OF SECTION

Chairman—ROLLAND J. WHITACRE, Cleveland.
Vice Chairman—VIRGINIA APGAR, New York.
Secretary—JOHN S. LUNDY, Rochester, Minn.
Delegate—HENRY S. RUTH, Philadelphia.
Representative to Scientific Exhibit—SCOTT M. SMITH, Salt Lake City.
Executive Committee—H. BOYD STEWART, Tulsa, Okla.; STEVENS J. MARTIN, Hartford, Conn.; DR. WHITACRE; DR. LUNDY; DR. RUTH.

Tuesday, June 2—9 a. m.

BUSINESS MEETING

REPORT OF DELEGATE

Endotracheal Anesthesia in Children for Tonsillectomy and Adenoidectomy and for Other Surgical Procedures of Longer Duration.
JOHN W. PENDER, Rochester, Minn.
Discussion to be opened by SAMUEL L. LIEBERMAN, Buffalo; A. H. KORNBLAU, Jamaica, N. Y., and ROBERT M. SMITH, Boston.

Renal Function During Anesthesia and Operation.
E. M. PAPPER, New York.
Discussion to be opened by URBAN H. EVERSOLE, Boston, and CLARENCE L. P. HEBERT, Staten Island, N. Y.

Studies on Body Temperature in Anesthetized Man.
ROBERT E. CLARK, LOUIS R. ORKIN, and E. A. ROVENSTINE, New York.
Discussion to be opened by MEYER SAKLAD, Providence, R. I., and HENRY K. BEECHER, Boston.

Histological Changes in Nerve and Soft Tissues After Injection of Various Local Anesthetic Substances.
WALTER H. MANNHEIMER, JOHN ADRIANI, and PHILIP PIZZOLATO, New Orleans.
Discussion to be opened by DANIEL C. MOORE, Seattle, and ALBERT M. BETCHER, New York.

Cerebral Edema and Its Relationship to Barbituric Acid Poisoning. LLOYD H. MOUSEL, Seattle.
Discussion to be opened by RAYMOND F. COURTIN, Worcester, Mass.; RICHARD H. BARRETT, Hanover, N. H., and DONALD E. HALE, Cleveland.

Spinal Anesthesia Prolonged for Fourteen, Eleven, and Seven Days Respectively.
F. PAUL ANSBRO, FRANCIS S. LATTERI, and ALBERT E. BLUNDELL, Brooklyn.
Discussion to be opened by MAX S. SADOVE, Oak Park, Ill., and MORRIS J. NICHOLSON, Boston.

Wednesday, June 3—9 a. m.

ELECTION OF OFFICERS

Clinical Evaluation of Dextran as a Plasma Volume Expander.
HARRY W. BOWMAN, Bethlehem, Pa.
Discussion to be opened by I. S. RAVDIN, Philadelphia, and SAM F. SEELEY, Washington, D. C.

Postoperative Nausea and Vomiting.
MARGARET A. CLARK, and CHARLES D. ANDERSON, Oakland, Calif.
Discussion to be opened by ROBERT L. PATTERSON, Pittsburgh, and B. B. SANKEY, Cleveland.

Chairman's Address: The Anesthesiologist's Responsibility to the Patient. ROLLAND J. WHITACRE, Cleveland.

The Pharmacologic Basis for the Rational Use of Thiopental in Clinical Anesthesia.
JOHN J. BURNS, BERNARD B. BROADIE, and PHILIP A. LIEF, New York.
Discussion to be opened by BENJAMIN E. ETSTEN, Boston, and JOHN W. UZMANN, Albuquerque, N. Mex.

Therapy of Narcotic Poisoning With and Without Analeptics.
JAMES E. ECKENHOFF, Philadelphia, and WILLY H. DAM, Copenhagen, Denmark.
Discussion to be opened by ROBERT W. LYKINS, Portsmouth, Va., and HOWARD M. AUSHERMAN, Chattanooga, Tenn.

Thursday, June 4—9 a. m.

Recent Advances in Obstetrical Analgesics.
BERNARD E. CAPPE, Jamaica, N. Y., and IRVING M. PALLIN, Brooklyn.
Discussion to be opened by ALLAN A. GENTLING, Fort Worth, Texas, and VIRGINIA APGAR, New York.

Complications Associated with the Use of "Controlled Hypotension" in Anesthesia.
L. JENNINGS HAMTON, New Haven, Conn., and DAVID M. LITTLE JR., Stamford, Conn.
Discussion to be opened by STEVENS J. MARTIN, Hartford, Conn., and SCOTT M. SMITH, Salt Lake City.

Hexamethonium Salts as an Aid to the Orthopedic Surgeon.
RANALD J. M. STEVEN, and RALPH M. TOVELL, Hartford, Conn.
Discussion to be opened by FRANCIS F. FOLDES, Pittsburgh, and ROGER W. RIDLEY, Rochester, Minn.

Placental Transmission of D-Tubocurarine Chloride from Mother to Fetus.
CHARLES B. PITTINGER and LUCIEN E. MORRIS, Iowa City.
Discussion to be opened by RALPH T. KNIGHT, Minneapolis, and LLOYD E. LARRICK, Cincinnati.

The Advantages and Complications of Tracheotomy.
HAMILTON S. DAVIS and HENRY E. KRETCHMER, Cleveland, and ROGER BRYCE-SMITH, Oxford, England.
Discussion to be opened by J. EARL REMLINGER JR., Evanston, Ill., and DONALD L. BURDICK, New York.

Tobacco Bronchitis: An Anesthesiologic Study.
BARNETT A. GREENE, Brooklyn.
Discussion to be opened by ALVAN L. BARACH, New York, and HENRY S. RUTH, Philadelphia.

SECTION ON DERMATOLOGY AND SYPHILOLOGY

MEETS IN BAROQUE ROOM OF THE BELMONT PLAZA

OFFICERS OF SECTION

Chairman—JOHN H. LAMB, Oklahoma City.
Vice Chairman—ROYAL M. MONTGOMERY, New York.
Secretary—J. WALTER WILSON, Los Angeles.
Delegate—ROBERT R. KIERLAND, Rochester, Minn.
Representative to Scientific Exhibit—JAMES R. WEBSTER, Chicago.
Executive Committee—DUDLEY C. SMITH*; FRANCIS W. LYNCH, St. Paul; DR. LAMB; DR. WILSON; DR. KIERLAND.

Tuesday, June 2—2 p. m.

BUSINESS MEETING

Cathode Rays in the Treatment of Malignant Lymphomas of the Skin.
JOHN L. FROMER and HUGH F. HARE, Boston.
Discussion to be opened by DAN J. KINDEL, Cincinnati.

The Uses and Abuses of Corticoid Therapy in Dermatology.
PAUL A. O'LEARY, Rochester, Minn.

Adult Premenstrual Acne: An Entity Suggesting Corpus Luteum Dysfunction.
BEN A. NEWMAN and FRED F. FELDMAN, Beverly Hills, Calif.
Discussion to be opened by GERALD M. FRUMESS, Denver.

The Local Treatment of Cutaneous Bacterial Infections with Erythromycin.
CLARENCE S. LIVINGOOD and SAMCHAI NILASENA, Galveston, Texas.
Discussion to be opened by DONALD M. PILLSBURY, Philadelphia.

Isonicotinyl-Hydrazine in the Treatment of Cutaneous Tuberculosis and Allied Conditions.
ROBERT E. HOLSINGER and JOHN E. DALTON, Indianapolis.
Discussion to be opened by H. H. SAWICKY, New Rochelle, N. Y.

Atabrine in the Treatment of Lupus Erythematosus.
HAROLD N. COLE JR., Cleveland.
Discussion to be opened by J. LAMAR CALLAWAY, Durham, N. C.

Wednesday, June 3—2 p. m.

ELECTION OF OFFICERS

Symposium on Cutaneous Malignancy, an Appropriate Segment of Dermatology

JOHN H. LAMB, Oklahoma City, Moderator

Chairman's Address: The Role of the Dermatologist in the Care of Cutaneous Malignancy.
JOHN H. LAMB, Oklahoma City.

Evaluation of Methods Used in the Treatment of Cutaneous Malignancy with Special Reference to Electrothermic Methods.
EARL D. OSBORNE, Buffalo.

The Place of Roentgen Radiation in the Treatment of Cutaneous Malignancy.
GEORGE C. ANDREWS, New York.

The Use of Radium in the Treatment of Cutaneous Malignancy.
J. LEWIS PIPKIN and C. FERD LEHMANN, San Antonio, Texas.

EXAMPLES OF SPECIAL PROBLEMS IN THE DERMATOLOGIC CARE OF CUTANEOUS MALIGNANCY

The Diagnosis and Treatment of Carcinoma of the Eyelids.
EUGENE F. TRAUB, New York.

Carcinoma of the Forehead and Scalp.
J. B. HOWELL, Dallas, Texas.
Discussion to be opened by W. HOWARD HAILEY, Atlanta, Ga., and JAMES R. DRIVER, Cleveland.

Thursday, June 4—2 p. m.

BUSINESS MEETING

The Histopathologic Diagnosis of Malignant Melanoma.
MOLLEURUS COUPERUS, Los Angeles.
Discussion to be opened by SAMUEL W. BECKER JR., Washington, D. C.

The Persistence of Untreated Hemangiomas from Infancy into Adult Life.
C. H. MCCUISTION JR., Austin, Texas.
Discussion to be opened by FRANCESCO RONCHESE, Providence, R. I.

Swimming Pool Abrasion Granuloma.
REES B. REES and JAMES H. BENNETT, San Francisco.
Discussion to be opened by D. E. H. CLEVELAND, Vancouver, B. C., Canada.

The Biologic Effects of Superficial Roentgen Rays on the Scalp with Special Reference to Epilation.
ALBERT M. KLIGMAN, Philadelphia.
Discussion to be opened by GEORGE M. LEWIS, New York.

The Management of Dyshidrosis: An Analysis of Vesicular and Pustular Eruptions of the Hands and Feet of the Dyshidrotic Type.
M. G. FREDERICKS and FREDERIC T. BECKER, Duluth, Minn.
Discussion to be opened by JULIUS GINSBERG, Chicago.

The Association of Muco-Cutaneous and Visceral Malignancies.
ERVIN H. EPSTEIN, Oakland, Calif.
Discussion to be opened by ANTHONY C. CIPOLLARO, New York.

SECTION ON DISEASES OF THE CHEST

MEETS IN NORTH BALLROOM OF THE NEW YORKER

OFFICERS OF SECTION

Chairman—JOSEPH C. PLACAK SR., Cleveland.
Vice Chairman—JAY A. MYERS, Minneapolis.
Secretary—JOHN F. BRIGGS, St. Paul.
Delegate—HOLLIS E. JOHNSON, Nashville, Tenn.
Representative to Scientific Exhibit—EDWIN R. LEVINE, Chicago.
Executive Committee—ALVIS E. GREER, Houston, Texas; J. WINTHROP PEABODY, Washington, D. C.; DR. PLACAK; DR. BRIGGS; DR. JOHNSON.

Tuesday, June 2—2 p. m.

Chairman's Address. JOSEPH C. PLACAK SR., Cleveland.

Mediastinal Tumors: A Survey of Modern Concepts in Diagnosis and Management.
J. WINTHROP PEABODY JR., LAWRENCE H. STRUG, and JAMES D. RIVES, New Orleans.

Clinical Observations in the Origins of Pulmonary Cysts, Bronchiectasis and Emphysema.
EDGAR MAYER, New York.

Panel on Diagnosis of Chest Disease

ANDREW L. BANYAI, Milwaukee, Moderator

The Diagnosis of Chest Disease. JAMES S. EDLIN, New York.
Panel Discussors: JOHN S. BOUSLOG, Denver; JEROME R. HEAD, Chicago; and DAVID M. SPAIN, Valhalla, N. Y.

* Deceased.

Wednesday, June 3—2 p. m.

BUSINESS MEETING

ELECTION OF OFFICERS

Panel on the Diagnosis and Treatment of Hypertension

EDGAR V. ALLEN, Rochester, Minn., Moderator

Participants: IRVINE H. PAGE, Cleveland; ROBERT W. WILKINS, Boston; KEITH S. GRIMSON, Durham, N. C.; and S. W. HOOBLER, Ann Arbor, Mich.

Symposium on Modern Trends in Chest Surgery

ALFRED GOLDMAN, Beverly Hills, Calif., Moderator

Surgical Management of Benign and Malignant Tumors of the Lung Discovered in X-Ray Survey.
BRIAN B. BLADES, Washington, D. C.

Surgical Treatment of Bronchiectasis: Indications and Results.
RICHARD H. OVERHOLT, Brookline, Mass.

Modern Surgical Management of Mediastinal Infections and Tumors. ARTHUR S. TOUROFF, New York.

General Discussion.

Thursday, June 4—2 p. m.

JOINT MEETING WITH SECTION ON GENERAL PRACTICE IN BALLROOM OF THE BILTMORE

Panel on the Diagnosis and Treatment of Cardiac Emergencies

ARTHUR M. MASTER, New York, Moderator

Treatment of Left Heart Failure, Particularly Pulmonary Edema. CLARENCE E. DE LA CHAPELLE, New York.

The Treatment of Coronary Occlusion Including Shock.
HERRMAN L. BLUMGART, Boston.

The Treatment of Cardiac Arrhythmias.
MYRON PRINZMETAL, Beverly Hills, Calif.

Open Discussion.

Panel on the Diagnosis and Treatment of Surgical Emergencies of the Chest

IVAN D. BARONOFSKY, Minneapolis, Moderator

Thoracic Vascular Emergencies.
FRANK L. A. GERBODE, San Francisco.

Emergencies of the Lung and Esophagus.
J. GORDON SCANNELL, Boston.

Chest Wall Injuries. DONALD L. PAULSON, Dallas, Texas.

Open Discussion.

SECTION ON EXPERIMENTAL MEDICINE AND THERAPEUTICS

MEETS IN BALLROOM OF THE BILTMORE

OFFICERS OF SECTION

Chairman—MAURICE H. SEEVERS, Ann Arbor, Mich.
Vice Chairman—IRVINE H. PAGE, Cleveland.
Secretary—HUGH R. BUTT, Rochester, Minn.
Delegate—EDGAR V. ALLEN, Rochester, Minn.
Representative to Scientific Exhibit—JOSEPH F. ROSS, Boston.
Executive Committee—JAMES A. GREENE, Houston, Texas; CARL V. MOORE, St. Louis; DR. SEEVERS; DR. BUTT; DR. ALLEN.

Tuesday, June 2—9 a. m.

Symposium on Recent Advances in Nephritis

Recent Advances in Some Aspects of Kidney Physiology.
HENRY D. LAUSON, New York.

Discussion to be opened by JOHN K. CLARK, Philadelphia.

Clinical Application of Current Tests of Renal Function.
WILLIAM GOLDRING, New York.

Discussion to be opened by ARTHUR M. FISHBERG and DAVID S. BALDWIN, New York.

Acute Glomerulonephritis: Recent Concepts of Etiology and Pathogenesis. CHARLES A. JANEWAY, Boston.

Discussion to be opened by KURT LANGE, New York, and DAVID SEEGAL, Welfare Island, N. Y.

Recent Advances in the Treatment of Acute and Chronic Renal Insufficiency. A. C. CORCORAN, Cleveland.

Discussion to be opened by ERNEST E. MUIRHEAD, Dallas, Texas, and HERBERT CHASIS, New York.

Recent Advances in the Management of the Nephrotic State.
JOHN A. LUETSCHER, QUINTIN B. DEMING, BEN B. JOHNSON, and CAROLYN F. PIEL, San Francisco.

Discussion to be opened by CONRAD M. RILEY, New York, and GUY W. DAUGHERTY, Rochester, Minn.

The Outlook for the Nephritic Patient.
NORMAN M. KEITH, Rochester, Minn.

Discussion to be opened by ROBERT F. LOEB, New York.

Wednesday, June 3—9 a. m.

ELECTION OF OFFICERS

Chairman's Address: Perspective Versus Caprice in Evaluating Toxicity of Chemicals in Man.
MAURICE H. SEEVERS, Ann Arbor, Mich.

Minot Lecture: Subacute Bacterial Endocarditis: The Present Day Treatment. CHESTER S. KEEFER, Boston.

Trypsin Intravenously in Peripheral Vascular and Thromboembolic Diseases.
MARTIN M. FISHER and N. DAVID WILENSKY, Brooklyn.

Discussion to be opened by IRVING INNERFIELD, Nyack, N. Y., and IRVING S. WRIGHT, New York.

The Rational Use of Chemotherapeutic and Antibiotic Agents in the Treatment of Biliary Tract Disease.
JERRY ZASLOW, Philadelphia.

Discussion to be opened by WALTMAN WALTERS, Rochester, Minn., and I. S. RAVDIN, Philadelphia.

Preliminary Results in the Treatment of Experimental and Clinical Leukemia with Triethylene Thio-Phosphoramide (Thio Tepa).
HARRY SHAY, CHRIS J. D. ZARAFONETIS, NATHAN J. SMITH, and IRVING WOLDOW, Philadelphia.

Discussion to be opened by JAMES A. WOLFF, New York, and J. MINOTT STICKNEY, Rochester, Minn.

Thursday, June 4—9 a. m.

JOINT MEETING WITH SECTION ON INTERNAL MEDICINE IN GRAND BALLROOM OF THE COMMODORE

Symposium on the Indications and Results of Surgical Treatment of Heart Disease

Defects of the Cardiac Septa.
ARTHUR SELZER, San Francisco.

Discussion to be opened by ROBERT E. GROSS, Boston, and CHARLES P. BAILEY, Philadelphia.

Pulmonic Stenosis. RICHARD J. BING, Birmingham, Ala.

Discussion to be opened by ALFRED BLALOCK, Baltimore.

Ductus Arteriosus and Vascular Rings.

C. SIDNEY BURWELL, Boston.

Discussion to be opened by BRIAN B. BLADES, Washington, D. C.

Coarctation. GEORGE C. GRIFFITH, Pasadena, Calif.

Discussion to be opened by O. T. CLAGETT, Rochester, Minn., and JOHN C. JONES, Los Angeles.

Mitral Stenosis. E. COWLES ANDRUS, Baltimore.

Discussion to be opened by ROBERT P. GLOVER, Philadelphia, and DWIGHT E. HARKEN, Boston.

SECTION ON GASTROENTEROLOGY AND PROCTOLOGY

MEETS IN GRAND BALLROOM OF THE NEW YORKER

OFFICERS OF SECTION

Chairman—LOUIS E. MOON, Omaha.

Vice Chairman—DONOVAN C. BROWNE, New Orleans.

Secretary—EVERETT D. KIEFER, Boston.

Delegate—LOUIS A. BUIE, Rochester, Minn.

Representative to Scientific Exhibit—J. P. NESSELROD, Evanston, Ill.

Executive Committee—FRANK G. RUNYEON, Reading, Pa.; GRANT H. LAING, Chicago; DR. MOON; DR. KIEFER; DR. BUIE.

Tuesday, June 2—9 a. m.

The Surgical Management of Ulcerative Colitis.

HARRY E. BACON and HOWARD D. TRIMPI, Philadelphia.

Discussion to be opened by RUPERT B. TURNBULL JR., Cleveland, and GARNET W. AULT, Washington, D. C.

The Problem of Gastric Ulcer Reviewed.

M. FRANCES H. SMITH, RUSSELL S. BOLES JR., and SARA M. JORDAN, Boston.

Discussion to be opened by RUSSELL S. BOLES, Philadelphia; FRANCIS D. MOORE, Boston, and HENRY L. BOCKUS, Philadelphia.

Vagotomy as a Prophylactic and Curative Procedure in Peptic Ulcer.

WALTMAN WALTERS, DONALD P. CHANCE, and JOSEPH BERKSON, Rochester, Minn.

Discussion to be opened by H. MARVIN POLLARD, Ann Arbor, Mich.; LESTER R. DRAGSTEDT, Chicago; KEITH S. GRIMSON, Durham, N. C., and FRANK H. LAHEY, Boston.

The Role of the Anticholinergic Drugs in the Treatment of Ulcer.

J. M. RUFFIN, E. C. TEXTER, JR., D. D. CARTER, and G. J. BAYLIN, Durham, N. C.

Discussion to be opened by WILLIAM C. BOECK, Beverly Hills, Calif., and WALTER L. PALMER, Chicago.

Peptic Esophagitis: Clinical, Radiographic and Endoscopic Features.

ASHER WINKELSTEIN, BERNARD S. WOLF, MAX L. SOM, and RICHARD H. MARSHAK, New York.

Uncommon Benign Lesions of the Lower Esophagus and Cardia of the Stomach.

RALPH ADAMS, Brookline, Mass., and SIDNEY B. LURIA, Manchester, N. H.

Discussion to be opened by RICHARD SCHATZKI, Brookline, Mass., and FRANZ J. INGELFINGER and WALTER B. HOOVER, Boston.

Wednesday, June 3—9 a. m.

ELECTION OF OFFICERS

Recurrent Anal Fissure: A Concept of Pathogenesis and Treatment. GUY L. KRATZER, Allentown, Pa.

Discussion to be opened by PAUL J. FUZY, Youngstown, Ohio, and HENRY C. SCHNEIDER, Philadelphia.

Chairman's Address: Proctologic Help for the General Practitioner and the Diagnostician.

LOUIS E. MOON, Omaha.

The Role of Antibiotics in the Management of Amebiasis.

G. GORDON MCHARDY and WILLIAM W. FRYE, New Orleans.

Discussion to be opened by W. A. SODEMAN, New Orleans.

Long Term Results in Corticotropin-Treated Ulcerative Colitis.

C. WILMER WIRTS, MARTIN E. REHFUSS, and HERBERT A. YANTES, Philadelphia.

Discussion to be opened by THOMAS E. MACHELLA, Philadelphia, and THOMAS P. ALMY, New York.

Antibiotic Residues in the Treatment of Nonspecific Ulcerative Colitis. MARK M. MARKS, Kansas City, Mo.

Discussion to be opened by Z. T. BERCOVITZ, New York.

Cecostomy and Colostomy in Acute Colon Obstructions: Experiences in Ninety-Nine Cases.

FRANK J. RACK and KENNETH W. CLEMENT, Cleveland.

Discussion to be opened by HOWARD D. TRIMPI, Philadelphia, and LELAND S. MCKITTRICK, Brookline, Mass.

Thursday, June 4—9 a. m.

JOINT MEETING WITH SECTION ON PATHOLOGY AND PHYSIOLOGY

Polyps of the Colon and Rectum. NEIL W. SWINTON, Boston.

Discussion to be opened by MARIE ORTMAYER, Chicago; JAY M. GARNER, Winnetka, Ill., and ROBERT A. SCARBOROUGH, San Francisco.

Pathology of Regional Ileitis and Ulcerative Colitis.

SHIELDS WARREN and SHELDON C. SOMMERS, Boston.

Discussion to be opened by JOSEPH B. KIRSNER, Chicago; RICHARD B. CATTELL, Boston, and BURRILL B. CROHN, New York.

The Role of the Adrenal Steroids in the Pathogenesis of Peptic Ulcer.

SEYMOUR J. GRAY, COLIN G. RAMSEY, ROBERT W. REIFENSTEIN, and JOHN A. BENSON, Boston.

Discussion to be opened by HARRY SHAY, Philadelphia, DAVID J. SANDWEISS, Detroit, and MORTON I. GROSSMAN, Chicago.

The Two-Component Mucous Barrier: Its Role in Protecting the Gastroduodenal Mucosa Against Peptic Ulceration.

FRANKLIN HOLLANDER, New York.

Discussion to be opened by J. EARL THOMAS, Philadelphia.

Enterobius Vermicularis Granuloma of the Appendix Vermiformis.
JOHN R. SCHENKEN, Omaha; FRANCIS C. COLEMAN, Des Moines, Iowa, and EMMA S. MOSS, New Orleans.

The Management of Enterobiasis.
WILLIAM J. ECKERLE, Rolling Hills, Calif.

Discussion on papers of DRS. SCHENKEN, COLEMAN, and MOSS, and ECKERLE to be opened by EMMA S. MOSS, New Orleans.

The Oral Use of Hydrocortisone (Compound F) in the Treatment of Sprue.
DAVID ADLERSBERG, HENRY COLCHER, and CHUN-I WANG, New York.

Discussion to be opened by PERRY J. CULVER, Boston.

SECTION ON GENERAL PRACTICE

MEETS IN BALLROOM OF THE BILTMORE

OFFICERS OF SECTION

Chairman—RICHARD A. MILLS, Fort Lauderdale, Fla.
Vice Chairman—LORUS C. BURWELL, Los Angeles.
Secretary—EUGENE I. BAUMGARTNER, Oakland, Md.
Delegate—PAUL A. DAVIS, Akron, Ohio.
Representative to Scientific Exhibit—CHARLES E. MCARTHUR, Olympia, Wash.
Executive Committee—LESTER D. BIBLER, Indianapolis; THOMAS E. ROBINSON, Salt Lake City; DR. MILLS; DR. BAUMGARTNER; DR. DAVIS.

Tuesday, June 2—2 p. m.

Chairman's Address: The Family Doctor and Heart Disease with Emphasis on Its Iatrogenic Aspects.
RICHARD A. MILLS, Fort Lauderdale, Fla.

Panel Conference and Symposium on Management and Mismanagement of the Failing Heart

HARRY GOLD, New York, Moderator

Participants: WALTER C. ALVAREZ, Chicago; E. COWLES ANDRUS, Baltimore; MARION A. BLANKENHORN, Cincinnati; ARTHUR C. DEGRAFF, New York; ARTHUR M. FISHBERG, New York; WALTER MODELL, New York; IRVING S. WRIGHT, New York; HENRY A. SCHROEDER, St. Louis.

Wednesday, June 3—2 p. m.

ELECTION OF OFFICERS

General Practice Aspects of Pediatric Gynecology.
GOODRICH C. SCHAUFFLER, Portland, Ore.

Discussion to be opened by ROBERT B. GREENBLATT, Augusta, Ga.

The Management of Cancer Pain.
JOHN J. BONICA, Tacoma, Wash.

Discussion to be opened by RAYMOND W. HOUDE, New York.

Diagnosis and Management of Abnormal Uterine Bleeding.
WALTER J. REICH, Chicago.

Stress and Tension: Enemies of the Future.
PAUL S. WILLIAMSON, Memphis, Tenn.

The Esophagus and the General Practitioner.
PHILIP THOREK, Chicago.

Discussion to be opened by S. A. MACKLER, Chicago.

A Successful Method of Treating Measles Encephalitis with Typhoid Vaccine.
EVELYNNE G. KNOUF, South Pasadena, Calif., and ALBERT G. BOWER, Pasadena, Calif.

Thursday, June 4—2 p. m.

JOINT MEETING WITH THE SECTION ON DISEASES OF THE CHEST

Panel on the Diagnosis and Treatment of Cardiac Emergencies

ARTHUR M. MASTER, New York, Moderator

Treatment of Left Heart Failure, Particularly Pulmonary Edema. CLARENCE E. DE LA CHAPELLE, New York.

The Treatment of Coronary Occlusion Including Shock.
HERRMAN L. BLUMGART, Boston.

The Treatment of Cardiac Arrhythmias.
MYRON PRINZMETAL, Beverly Hills, Calif.

Open Discussion.

Panel on the Diagnosis and Treatment of Surgical Emergencies of the Chest

IVAN D. BARONOFSKY, Minneapolis, Moderator

Thoracic Vascular Emergencies.
FRANK L. A. GERBODE, San Francisco.

Emergencies of the Lung and Esophagus.
J. GORDON SCANNELL, Boston.

Chest Wall Injuries. DONALD L. PAULSON, Dallas, Texas.

Open Discussion.

SECTION ON INTERNAL MEDICINE

MEETS IN GRAND BALLROOM OF THE COMMODORE

OFFICERS OF SECTION

Chairman—TRUMAN G. SCHNABEL, Philadelphia.
Vice Chairman—HOWARD P. LEWIS, Portland, Ore.
Secretary—HERRMAN L. BLUMGART, Boston.
Delegate—CHARLES T. STONE SR., Galveston, Texas.
Representative to Scientific Exhibit—WESLEY W. SPINK, Minneapolis.
Executive Committee—WALTER L. PALMER, Chicago; CARTER SMITH, Atlanta, Ga.; DR. SCHNABEL; DR. BLUMGART; DR. STONE.

Tuesday, June 2—9 a. m.

Coronary Dilators and Angina: A Reappraisal.
EARL N. SILBER and LOUIS N. KATZ, Chicago.

Discussion to be opened by A. CARLTON ERNSTENE, Cleveland, and JOSEPH E. F. RISEMAN, Boston.

The Clinical Course of 72 Patients with Severe Hypertension Following Adrenal Resection and Sympathectomy.
W. A. JEFFERS, C. C. WOLFERTH, H. A. ZINTEL, J. H. HAFKENSCHIEL JR., A. G. HILLS, and A. M. SELLERS, Philadelphia.

Discussion to be opened by WILLIAM DOCK, Brooklyn, and REGINALD H. SMITHWICK, Boston.

The Billings Lecture: The Principles and Practice of Prognosis with Particular Reference to Heart Disease.
PAUL D. WHITE, Boston.

The Use and Misuse of Radioiodine in the Treatment of Cancer of the Thyroid.

RULON W. RAWSON, J. E. RALL, and J. ROBBINS, New York.

Discussion to be opened by ROBERT H. WILLIAMS, Seattle.

Clinical Observations on the Fatty Liver.

CARROLL M. LEEVY, MYRA R. ZINKE, THOMAS J. WHITE, and ANGELO M. GNASSI, Jersey City, N. J.

Discussion to be opened by MARY ANN PAYNE, New York, and THOMAS C. CHALMERS, Cambridge, Mass.

Diagnostic Significance of Blood Sugar Findings.

CHRIS J. MCLOUGHLIN and LESTER M. PETRIE, Atlanta, Ga.

Discussion to be opened by GARFIELD G. DUNCAN, Philadelphia, and RUSSELL E. TEAGUE, Harrisburg, Pa.

Wednesday, June 3—9 a. m.

ELECTION OF OFFICERS

Acute and Chronic Bacillary Dysentery.

JOSEPH FELSEN and WILLIAM WOLARSKY, New York.

Discussion to be opened by WALTER L. PALMER, Chicago, and F. S. CHEEVER, Pittsburgh.

Active Chronic Pulmonary Histoplasmosis.
W. D. SUTLIFF and L. L. BURKETT, Memphis, Tenn.

Discussion to be opened by HOLLIS E. JOHNSON, Nashville, Tenn., and DAVID T. SMITH, Durham, N. C.

Chairman's Address: Some Reflections on the American Board of Internal Medicine.

TRUMAN G. SCHNABEL, Philadelphia.

Effect of a Monocaproyl Derivative of Diaminodiphenylsulfone (Equityl) in Experimental and Clinical Tuberculosis.

RICHARD S. GUBNER, Brooklyn; E. W. DENNIS, Rensselaer, N. Y.; CHESTER M. SUTER, Albany, N. Y., and H. E. UNGERLEIDER, New York.

Discussion to be opened by BENJAMIN BURBANK, Brooklyn.

The Clinical Use of 1-Hydrazinophthalazine and Hexamethonium in the Treatment of Hypertension.

ROBERT R. J. HILKER, CARL E. BILLINGS, and PAUL S. RHOADS, Chicago.

Discussion to be opened by EDWARD MEILMAN, Boston, and IRVINE H. PAGE, Cleveland.

Evaluation of Endocrine Therapy for Advanced Breast Cancer.

OLOF H. PEARSON, CHARLES D. WEST, and NORMAN E. TREVES, New York.

Discussion to be opened by ALBERT SEGALOFF, New Orleans.

Thursday, June 4—9 a. m.

JOINT MEETING WITH SECTION ON EXPERIMENTAL MEDICINE AND THERAPEUTICS

Symposium on the Indications and Results of Surgical Treatment of Heart Disease

Defects of the Cardiac Septa.

ARTHUR SELZER, San Francisco.

Discussion to be opened by ROBERT E. GROSS, Boston, and CHARLES P. BAILEY, Philadelphia.

Pulmonic Stenosis. RICHARD J. BING, Birmingham, Ala.
Discussion to be opened by ALFRED BLALOCK, Baltimore.

Ductus Arteriosus and Vascular Rings.
C. SIDNEY BURWELL, Boston.
Discussion to be opened by BRIAN B. BLADES, Washington, D. C.

Coarctation. GEORGE C. GRIFFITH, Pasadena, Calif.
Discussion to be opened by O. T. CLAGETT, Rochester, Minn., and JOHN C. JONES, Los Angeles.

Mitral Stenosis. E. COWLES ANDRUS, Baltimore.
Discussion to be opened by ROBERT P. GLOVER, Philadelphia, and DWIGHT E. HARKEN, Boston.

SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

MEETS IN JADE ROOM OF THE WALDORF-ASTORIA

OFFICERS OF SECTION

Chairman—DEAN M. LIERLE, Iowa City.
Vice Chairman—FRANCIS W. DAVISON, Danville, Pa.
Secretary—SAM H. SANDERS, Memphis, Tenn.
Delegate—GORDON F. HARKNESS, Davenport, Iowa.
Representative to Scientific Exhibit—FRANCIS W. DAVISON, Danville, Pa.
Executive Committee—J. MILTON ROBB, Detroit; CARL H. MCCASKEY, Indianapolis; DR. LIERLE; DR. SANDERS; DR. HARKNESS.

Tuesday, June 2—2 p. m.

Introduction of Scientific Exhibitors.
FRANCIS W. DAVISON, Danville, Pa.

Symposium on the Management of Chronic Sinus Disease

Management of Chronic Maxillary Disease.
LAWRENCE R. BOIES, Minneapolis.

Management of Chronic Ethmoid and Sphenoid Sinusitis.
FRED W. DIXON, Cleveland.

Management of Frontal Sinus.
LEWIS FRANCIS MORRISON, San Francisco.

The Frontal Sinuses in Relation to Trauma: Initial and Subsequent Cure. WALTER P. WORK, San Francisco.

Motion Picture: Commando Operation for Carcinoma of Head and Neck. HANS VON LEDEN, Evanston, Ill.

Wednesday, June 3—2 p. m.

BUSINESS MEETING

ELECTION OF OFFICERS

Chairman's Address: Surgical Treatment of Persistent Thyroglossal Ducts and Cysts. DEAN M. LIERLE, Iowa City.

Reaction in the Nasal Mucosae: The Relation of Life Stress to Chronic Rhinitis and "Sinus" Headache.
STEWART WOLF, Oklahoma City.
Discussion to be opened by EDMUND P. FOWLER JR., and GEORGE E. DANIELS, New York.

Cancer of the Larynx: Laryngoplasty to Avoid Laryngectomy.
JOEL J. PRESSMAN, Los Angeles.
Discussion to be opened by DE GRAAF WOODMAN and JOHN F. DALY, New York.

Technique on Removal of Adenoid Tissue of the Nasopharynx in Children. PHILIP E. MELTZER, Boston.
Discussion to be opened by JOSEPH L. GOLDMAN, New York, and ERNEST REEVES, Passaic, N. J.

Thursday, June 4—2 p. m.

Otitis Externa: The Facts of the Matter.
J. W. McLaurin, Baton Rouge, La.

The Treatment of Traumatic Deformities of the Face.
John Marquis Converse, New York.
Discussion to be opened by V. H. Kazanjian, Boston, and Thomas William Stevenson, New York.

The Fenestration Operation Analyzed for the Nonfenestrating Otologist. J. Brown Farrior, Tampa, Fla.
Discussion to be opened by Clair M. Kos, Iowa City, and Arthur L. Juers, Miami, Fla.

Otosclerosis in Identical Twins: Factors in Onset, Exacerbation and Stabilization.
Edmund Prince Fowler Sr., New York.
Discussion to be opened by Franz Altmann and Rafael Lorente de Nó, New York.

SECTION ON MILITARY MEDICINE

MEETS IN NORTH BALLROOM OF THE ASTOR HOTEL

OFFICERS OF SECTION

Chairman—Richard A. Kern, Philadelphia.
Vice Chairman—Dan C. Ogle, Washington, D. C.
Secretary—Sheldon S. Brownton, Washington, D. C.
Delegate—Russel V. Lee, Palo Alto, Calif.
Representative to Scientific Exhibit—Robert V. Schultz, Washington, D. C.
Executive Committee—Melvin A. Casberg, Washington, D. C.; Dr. Kern; Dr. Brownton; Dr. Lee.

Wednesday, June 3—2 p. m.

ELECTION OF OFFICERS

Chairman's Address. Richard A. Kern, Philadelphia.

Helicopters in Peace and War.
M. S. White and Robert W. Merkle, Langley Air Force Base, Va.
Discussion to be opened by Alvin L. Gorby, Washington, D. C.

Advancements in Submarine Medicine.
Gerald J. Duffner and Jack L. Kinsey, New London, Conn.

Preventive Medicine Problems in Global Air Deployment.
Fratis L. Duff, Washington, D. C.
Discussion to be opened by Theodore C. Bedwell Jr., Washington, D. C.

Management of Severe Shock in Battle Casualties.
John M. Howard, Washington, D. C.

Observations of the Fundus Oculi During Blackout.
T. D. Duane and Edward L. Beckman, Johnsville, Pa.
Discussion to be opened by Victor Burns, Randolph Field, Texas.

Thursday, June 4—2 p. m.

Intra-Arterial Transfusion. Sam F. Seeley, Washington, D. C.
Discussion to be opened by Robert B. Brown, Bethesda, Md.

Health Protection in Nuclear-Powered Submarine and Surface Vessels.
Oscar Schneider and Theodore Rockwell, Washington, D. C.
Discussion to be opened by John E. Pickering, Randolph Field, Texas, and John H. Lawrence, Berkeley, Calif.

Academic Freedom in Military Medical Research.
Howard T. Karsner and R. A. Phillips, Washington, D. C.
Discussion to be opened by Lowell T. Coggeshall, Chicago, and Stanhope Bayne-Jones, New York.

Medical Aspects of Crash Injuries.
Donald S. Wenger, Washington, D. C.
Discussion to be opened by Ralph E. Switzer, San Bernardino, Calif., and Robert A. McCall, Washington, D. C.

Epidemic Hemorrhagic Fever.
Arthur P. Long and Irvine H. Marshall, Washington, D. C.
Discussion to be opened by W. Barry Wood Jr., St. Louis, and Robert L. Hullinghorst, Washington, D. C.

SECTION ON MISCELLANEOUS TOPICS

SESSION ON ALLERGY

MEETS IN BASILDON ROOM OF THE WALDORF-ASTORIA

OFFICERS OF SESSION

Co-Chairmen—Walter S. Burrage, Boston; John W. Thomas, Richmond, Va.
Secretary—Alan G. Cazort, Little Rock, Ark.

Wednesday, June 3—2 p. m.

The Use and Abuse of Cortisone and ACTH in Allergic Disease. Leon Unger, Chicago.

Classification of Asthma.
Oscar Swineford Jr., Charlottesville, Va.

Allergic Noninfectious Pneumonitis in Incipient Asthma.
George L. Waldbott, Detroit.

Mechanism of Drug Reactions.
Adolph Rostenberg Jr., and James R. Webster, Chicago.

Clinical Panel

Giles A. Koelsche, Rochester, Minn., Moderator
Participants:
Walter S. Burrage, Boston; Samuel M. Feinberg, Chicago; Bret Ratner, New York; Harry L. Rogers, Philadelphia; Bram Rose, Montreal, Canada; J. Warrick Thomas, Richmond, Va.

SECTION ON NERVOUS AND MENTAL DISEASES

MEETS IN GRAND BALLROOM OF THE NEW YORKER

OFFICERS OF SECTION

Chairman—Francis M. Forster, Washington, D. C.
Vice Chairman—Harold C. Voris, Chicago.
Secretary—Karl O. Von Hagen, Los Angeles.
Delegate—Hans H. Reese, Madison, Wis.
Representative to Scientific Exhibit—G. Wilse Robinson, Kansas City, Mo.
Executive Committee—Louis J. Karnosh, Cleveland; Frank H. Luton, Nashville, Tenn.; Dr. Forster; Dr. Von Hagen; Dr. Reese.

Tuesday, June 2—2 p. m.

The Common Whiplash Injuries of the Neck.
James R. Gay and Kenneth H. Abbott, Columbus, Ohio.
Discussion to be opened by Donald Munro, Boston, and Byron Stookey, New York.

Congenital Spinal Meningocele.
RUDOLPH JAEGER, Philadelphia.
Discussion to be opened by EDGAR A. KAHN, Ann Arbor, Mich., and CLEMENS E. BENDA, Boston.

Technical Suggestions for the General Surgeon in the Care of Suspected Middle Meningeal Hemorrhage Under Emergency Conditions.
R. B. RANEY and A. A. RANEY, Los Angeles.
Discussion to be opened by LESTER A. MOUNT, New York, and E. S. GURDJIAN, Detroit.

The Role of the Cervical Roots in the Production of Pain in the Head and Face. FRANK H. MAYFIELD, Cincinnati.
Discussion to be opened by Jefferson Browder and A. M. RABINER, Brooklyn.

Complications Following Cerebral Angiography with Diadrast.
DOGAN PERESE, WILLIAM C. KITE JR., ARTHUR J. BEDELL, and ELDRIDGE CAMPBELL, Albany, N. Y.
Discussion to be opened by A. EARL WALKER, Baltimore, and JOHN P. GALLAGHER, Washington, D. C.

Review of Surgical Results in a Series of 1,800 Brain Tumors Followed for at Least Five Years.
FRANCIS C. GRANT, Philadelphia.
Discussion to be opened by MATTHEW T. MOORE, Philadelphia, and CLARENCE S. GREENE, Washington, D. C.

Wednesday, June 3—2 p. m.

ELECTION OF OFFICERS

Chairman's Address: The Development and Future of the Section on Nervous and Mental Diseases.
FRANCIS M. FORSTER, Washington, D. C.

Clinical Implications of Recent Studies of the Cerebral Circulation.
HENRY A. SHENKIN and PAUL NOVACK, Philadelphia.
Discussion to be opened by CHARLES RUPP and MICHAEL SCOTT, Philadelphia.

The Social-Psychological Therapy of Epilepsy.
WILLIAM G. LENNOX and CHARLES H. MARKHAM, Boston.
Discussion to be opened by H. HOUSTON MERRITT, New York, and EPHRAIM ROSEMAN, Louisville, Ky.

Cerebral Complications Associated with Pregnancy.
BENJAMIN BOSHES and JUANITA G. MCBEATH, Chicago.
Discussion to be opened by E. D. FRIEDMAN and THEODORE J. C. VON STORCH, New York.

Antispasmodic Compound 08958 in the Treatment of Parkinsonism.
KENNETH R. MAGEE and RUSSELL N. DEJONG, Ann Arbor, Mich.
Discussion to be opened by LEWIS J. DOSHAY, New York, and ROBERT S. SCHWAB, Boston.

Observations on the Course and Management of Myasthenia Gravis.
DAVID GROB and A. MCGEHEE HARVEY, Baltimore.
Discussion to be opened by ROLAND P. MACKAY, Chicago, and HENRY R. VIETS, Boston.

Thursday, June 4—2 p. m.

The Pharmacological Treatment of the Aged Hospitalized in an Institution for the Mentally Ill.
SOL LEVY, Medical Lake, Wash.
Discussion to be opened by HOLLIS E. CLOW, White Plains, N. Y.

The Distribution, Form, and Extent of Psychiatric Consultation Services in the United States.
DANIEL BLAIN, Washington, D. C., and R. FINLEY GAYLE JR., Richmond, Va.
Discussion to be opened by FRANCIS J. GERTY, Chicago, LEO H. BARTEMEIER, Detroit, and C. N. BAGANZ, Lyons, N. J.

The Alleviation of Emotional Problems in Multiple Sclerosis by Group Psychotherapy.
ROBERT H. BARNES, EWALD W. BUSSE, and HAROLD DINKEN, Denver.
Discussion to be opened by FRANKLIN G. EBAUGH, Denver, and WILFRED C. HULSE, New York.

Prognosis in Psychiatry: The Results of Psychiatric Treatment.
KENNETH E. APPEL, J. MARTIN MYERS, and ALBERT E. SCHEFLEN, Philadelphia.
Discussion to be opened by LOTHAR B. KALINOWSKY and NOLAN D. C. LEWIS, New York.

Psychotherapeutic Reeducation.
HARDIN M. RITCHEY, New Canaan, Conn.
Discussion to be opened by GEORGE N. RAINES and ZIGMOND M. LEBENSOHN, Washington, D. C.

Anxiety and Depressive States Treated with Isonicotinyl Hydrazide.
HARRY M. SALZER and MAX L. LURIE, Cincinnati.
Discussion to be opened by FRANCIS J. BRACELAND, Hartford, Conn., and FRANK H. LUTON, Nashville, Tenn.

SECTION ON OBSTETRICS AND GYNECOLOGY

MEETS IN TOWN HALL

OFFICERS OF SECTION

Chairman—ALBERT W. HOLMAN,* Portland, Ore.
Vice Chairman—R. GORDON DOUGLAS, New York.
Secretary—BERNARD J. HANLEY, Los Angeles.
Delegate—HARVEY B. MATTHEWS, Brooklyn.
Representative to Scientific Exhibit—FREDERICK H. FALLS, Oak Park, Ill.
Executive Committee—ARTHUR B. HUNT, Rochester, Minn.;* LOUIS H. DOUGLASS, Baltimore; DR. HOLMAN *; DR. HANLEY; DR. MATTHEWS.

Tuesday, June 2—9 a. m.

Spinal Anesthesia in Cesarean Section: A Critical Analysis of Some 1,200 Cases with no Maternal Mortality.
DONALD W. DECARLE, San Francisco.
Discussion to be opened by ROBERT A. COSGROVE, Jersey City, N. J., and EDWARD C. ALLEN, Boston.

The Intrapartum Initiation of Lactation Control with a Single Dose of a Long-Acting Androgen (Testosterone Cyclopentylpropionate).
SAMUEL M. DODEK, JOSEPH M. FRIEDMAN, PETER A. SOYSTER, and HARVEY L. MARCELLUS, Washington, D. C.
Discussion to be opened by ROBERT B. GREENBLATT, Augusta, Ga.

An Experience of 27 Years in the Therapeutic Administration of Low Voltage X-Rays to the Pituitary and Ovaries in the Treatment of Female Sterility.
IRA I. KAPLAN, New York.
Discussion to be opened by LEON ISRAEL, Philadelphia.

Periodic Examination of the Female Breasts and Pelvic Organs: Report of a 15 Year Research on the Control of Cancer.
CATHARINE MACFARLANE, Philadelphia; MARGARET C. STURGIS, Wynnewood, Pa., and FAITH S. FETTERMAN, Philadelphia.
Discussion to be opened by GRAY H. TWOMBLY, New York.

Improved Fertility and Prevention of Abortion After a Liver-Hormonal Regimen.
S. J. GLASS and M. L. LAZARUS, Beverly Hills, Calif.
Discussion to be opened by MORTON S. BISKIND, Westport, Conn., and GORDON ROSENBLUM, Los Angeles.

* Deceased.

Wednesday, June 3—9 a. m.

ELECTION OF OFFICERS

Physiological and Clinical Aspects of Conception.
EDWARD T. TYLER, Los Angeles.
Discussion to be opened by A. R. BARBANELL, Los Angeles.

Relationships of Endometrial Hyperplasia and Adenocarcinoma of the Fundus.
EDMUND R. NOVAK, Baltimore.
Discussion to be opened by JAMES A. CORSCADEN, New York.

Defibrinogenation Syndrome of Obstetrics: Etiology and Management.
C. P. HODGKINSON and R. R. MARGULIS, Detroit.
Discussion to be opened by CHARLES SCHNEIDER, Detroit.

Psychosomatic Aspects of Obstetrics and Gynecology.
WILLIAM S. KROGER, Evanston, Ill.
Discussion to be opened by FLANDERS DUNBAR, New York, and A. J. MANDY, Baltimore.

The Obstetrical Forceps: Its Use and Abuse.
RAYMOND J. PIERI, Syracuse, N. Y.
Discussion to be opened by JOHN F. FIORINO, Everett, Wash.

Thursday, June 4—9 a. m.

Radiological Estimation of Pelvic Expansion.
ARTHUR WEINBERG, Far Rockaway, N. Y.
Discussion to be opened by ALAN GUTTMACHER, New York, and WILLIAM F. MENGERT, Dallas, Texas.

Management of the Pregnant Diabetic.
EDWARD TOLSTOI, WILLIAM P. GIVEN, and R. GORDON DOUGLAS, New York.
Discussion to be opened by EDWARD G. WATERS, Jersey City, N. J.

The Contracted Outlet. D. FRANK KALTREIDER, Baltimore.
Discussion to be opened by EDWARD H. DENNEN, New York.

Prolonged Labor: A Clinical Evaluation.
JOHN R. MCCAIN, Atlanta, Ga.; CLARENCE L. ANDERSON, Lakeland, Fla.; WILLIAM M. LESTER, Atlanta, Ga., and JOSEPH W. PILKINGTON, St. Petersburg, Fla.
Discussion to be opened by DUNCAN REID, Boston, and LOUIS M. HELLMAN, New York.

Elective Appendectomies at the Time of Caesarean Sections.
ELISABETH LARSSON, Los Angeles.
Discussion to be opened by NICHOLSON J. EASTMAN, Baltimore.

COMBINED MEETING OF SECTION ON OPHTHALMOLOGY WITH ASSOCIATION FOR RESEARCH IN OPHTHALMOLOGY

MEETS IN ASTOR GALLERY OF THE WALDORF-ASTORIA

Section on Ophthalmology

OFFICERS OF SECTION

Chairman—FRANCIS H. ADLER, Philadelphia.
Vice Chairman—FREDERICK A. DAVIS, Madison, Wis.
Secretary—TRYGVE GUNDERSEN, Boston.
Delegate—WILLIAM L. BENEDICT, Rochester, Minn.
Representative to Scientific Exhibit—WILLIAM F. HUGHES JR., Chicago.
Executive Committee—ROBERT J. MASTERS, Indianapolis; EDWIN B. DUNPHY, Boston; DR. ADLER; DR. GUNDERSEN; DR. BENEDICT.

Program of Section on Ophthalmology

Tuesday, June 2—9 a. m.

Chairman's Address. FRANCIS H. ADLER, Philadelphia.

The Scleral Resection Operation for Retinal Detachment: An Evaluation of the Results.
PETER C. KRONFELD, Chicago, and DOHRMANN K. PISCHEL, San Francisco.

A Comparison of Scleral Resection and Scleral Folding in the Experimental Shortening of the Eye.
ANGELOS N. DELLAPORTA, Buffalo.

The Use of P^{32} Diagnostically in Ocular Pathology.
ISADORE J. EISENBERG, IRVING H. LEOPOLD, and DAVID M. SKLAROFF, Philadelphia.

Ocular Dysmetria, Flutter-Like Oscillations of the Eyes and Opsoclonus. DAVID G. COGAN, Boston.

Xerophthalmia. DANIEL G. VAUGHAN JR., San Jose, Calif.

Dacryocystography: The Normal Lacrimal Tract.
BYRON H. DEMOREST and BENJAMIN MILDER, St. Louis.

Wednesday, June 3—9 a. m.

EXECUTIVE SESSION.

ELECTION OF OFFICERS.

Address of Invited Foreign Guest.
A. FRANCESCHETTI, Geneva, Switzerland.

Uveitis in Children.
PHILLIPS THYGESON, San Jose, Calif., and MICHAEL J. HOGAN and SAMUEL J. KIMURA, San Francisco.

Uveitis: A Military Problem. JOHN R. FAIR, Meridian, Ga.

A Clinical Report of the Use of Three New Cycloplegic Drugs.
BERNARD C. GETTES, Philadelphia.

Very Early Vascular Signs in the Retina in Relation to Elevated Diastolic Blood Pressure. HENRY MINSKY, New York.

Demonstration of New Instruments.

Thursday, June 4—9 a. m.

Dorocaine for Rapid Anesthesia of the Cornea.
HENRY E. SCHLEGEL JR. and KENNETH C. SWAN, Portland, Ore.

A Preliminary Report on the Ridley Operation.
WARREN S. REESE and TURGUT N. HAMDI, Philadelphia.

Contact Lenses in Aphakia.
ELIZABETH F. CONSTANTINE and JOHN M. MCLEAN, New York.

Isonicotinic Acid Hydrazide in Ophthalmology.
THEODORE F. SCHLAEGEL JR. and LOUIS N. HUNGERFORD, Indianapolis.

Fibrin Film in the Treatment of Corneal Diseases.
C. WILLIAM WEISSER, Pittsburgh.

Experiences with a Magnetic Implant for Cosmetic Improvement of the Enucleation Procedure Over a Five Year Period. RICHARD C. TROUTMAN, New York.

Association for Research in Ophthalmology

OFFICERS

Chairman—DAVID G. COGAN, Boston.

Secretary—LORAND V. JOHNSON, Cleveland.

Program of Association for Research in Ophthalmology

Monday, June 1—1 p. m.

EINHORN AUDITORIUM, LENOX HILL HOSPITAL

Clinical Aspects of Vitreous Body Pathology.
CHARLES L. SCHEPENS.

Physicochemical Studies on the Vitreous Body.
L. VARGA and ENDRE A. BALAZS.

Properties of the Fibrous Component of the Vitreous Body.
A. GEDEON MATOLTSY.

Application of Paper Electrophoresis to the Study of the Soluble Vitreous Humor Proteins. LEROY SCHIELER.

Ultraviolet Absorption of the Vitreous Body.
ENDRE A. BALAZS.

Studies on the Cornea: I. The Fine Structure of the Rat Cornea. MARIE A. JAKUS.

GENERAL DISCUSSION ON "VITREOUS"
CHARLES L. SCHEPENS, Moderator

Tuesday, June 2—2 p. m.

The Recording of the Electroretinogram in Humans and in Animals.
I. H. WAGMAN, JOSEPH WALDMAN, DAVID NAIDOFF, L. B. FEINSCHIL, and R. CHAHAN.

Electroretinography in Cases of Night Blindness.
LORRIN A. RIGGS.

The Origin of the Electroretinogram. W. K. NOELL.

Detection of Intraocular Tumors Using Radioactive Phosphorus.
CHARLES I. THOMAS, JACK S. KROHMER, and JOHN P. STORAASLI.

Investigation of Corticoid Materials in Intraocular Fluids of Normal and Diseased Experimental Animal and Human Eyes.
HARRY GREEN, VIRGINIA L. WEIMER, and IRVING H. LEOPOLD.

Studies on the Nature of the Exophthalmic Producing Principle of Hypophysial Extracts.
GEORGE K. SMELSER and V. OZANICS.

Wednesday, June 3—2 p. m.

The Influence of ACTH on the Reactivity of the Capillary Bed in the Eye.
L. VON SALLMANN, B. PILLAT, and M. M. POWERS.

A New Method for Measuring Binocular Fusion Compulsion.
GERHARD A. BRECHER.

The Effect of Oxygen Glucose and Glutamic Acid on the Reversible Cation Shift of the Lens.
JOHN E. HARRIS, JAMES D. HAUSCHILDT, and LORETTA T. NORDQUIST.

Effects of Intracarotid Injection of a Basic Dye on the Ciliary Body.
ELMER J. BALLINTINE and LAWRENCE PETERS.

The Composition of the Polysaccharide of the Bovine Lens Capsule and Its Topical Distribution.
Z. DISCHE and E. BORENFREUND.

Thursday, June 4—2 p. m.

The Nutritional Supply of Corneal Regions in Experimental Animals: III. Further Studies on the Corneal Transport of Inorganic Ions.
ALBERT M. POTTS, DORIS GOODMAN, and LORAND V. JOHNSON.

The Role of Metabolism in the Hydration of Isolated Bovine Lens and Cornea.
BERNARD SCHWARTZ, BETTY DANES, and P. J. LEINFELDER.

Experimental Granulomatous Uveitis: Studies on the Mechanism of the Contralateral Reaction After the Use of Horse Serum in Rabbits.
T. F. SCHLAEGEL, FRED M. WILSON, and JACK TADMAN.

Treatment of Experimental Ocular Tuberculosis with Isoniazid.
PHILIP KNAPP and LUDWIG VON SALLMANN.

Healing of the Posterior Lens Capsule and Lens Induced Endophthalmitis: An Experimental Study.
WOOD LYDA, RICHEY L. WAUGH JR., and GEORGE H. HAIK.

Extramedullary Hematopoiesis in and Around the Eye.
ALGERNON B. REESE and FREDERICK C. BLODI.

SECTION ON ORTHOPEDIC SURGERY

MEETS IN MODERNE ROOM OF THE BELMONT PLAZA

OFFICERS OF SECTION

Chairman—H. RELTON MCCARROLL, St. Louis.
Vice Chairman—CHARLES N. PEASE, Chicago.
Secretary—FREDERICK R. THOMPSON, New York.
Delegate—EDWARD L. COMPERE, Chicago.
Representative to Scientific Exhibit—J. VERNON LUCK, Los Angeles.
Executive Committee—WALTER P. BLOUNT, Milwaukee; FREDERIC C. BOST, San Francisco; DR. MCCARROLL; DR. THOMPSON; DR. COMPERE.

Tuesday, June 2—9 a. m.

The Early Roentgenographic Signs of Perthes' Disease.
TOM OUTLAND, Harrisburg, Pa.
Discussion to be opened by CHARLES W. GOFF, Hartford, Conn., and M. BECKETT HOWORTH, New York.

Panastragalar Arthrodesis.
WALTER S. HUNT JR. and HUGH A. THOMPSON, Raleigh, N. C.
Discussion to be opened by ROBERT L. PATTERSON, New York, and ROBERT J. JOPLIN, Boston.

The Treatment of Infection After Insertion of an Intramedullary Nail.
J. ALBERT KEY, FRED C. REYNOLDS, and JAMES O. LOTTES, St. Louis.
Discussion to be opened by DANA M. STREET and HUGH SMITH, Memphis, Tenn.

The Effects of Extensive Radiation on the Healing of Fresh Fractures.
AUGUST W. SPITTLER, JOSEPH W. BATCH, and BEN A. RUTLEDGE, Washington, D. C.
Discussion to be opened by EDGAR M. BICK, New York, and A. R. SHANDS JR., Wilmington, Del.

The Triceps Surae Syndrome in Cerebral Palsy.
LENOX D. BAKER, Durham, N. C.
Discussion to be opened by CHARLES N. PEASE, Chicago, and FREDERICK L. LIEBOLT, New York.

Du Puytren's Contracture of the Foot.
HERBERT E. PEDERSEN and A. JACKSON DAY, Dearborn, Mich.
Discussion to be opened by LEE C. SCHLESINGER, New Orleans, and EMANUEL B. KAPLAN, New York.

Wednesday, June 3—9 a. m.

ELECTION OF OFFICERS.

Early Management of the Injured Hand.
JOSEPH D. GODFREY and WILLIAM D. DUGAN, Buffalo.
Discussion to be opened by J. WILLIAM LITTLER, New York, and GEORGE O. EATON, Baltimore.

Spondylolisthesis. PAUL C. COLONNA, Philadelphia.
Discussion to be opened by FREDERIC C. BOST, San Francisco, and JOHN R. NORCROSS, Chicago.

Chairman's Address: Has a Solution for the "Unsolved Fracture" Been Found?
H. RELTON MCCARROLL, St. Louis.

Problems in Management of Fractures of the Shaft of the Tibia.
MILTON S. THOMPSON, Fort Sam Houston, Texas.
Discussion to be opened by JOHN S. THIEMEYER, Portsmouth, Va., and FRANK E. STINCHFIELD, New York.

Flake Fracture of the Astragalus.
BRUCE J. BREWER, Milwaukee.
Discussion to be opened by NICHOLAS J. GIANNESTRA, Cincinnati, and WALTER P. BLOUNT, Milwaukee.

Thursday, June 4—9 a. m.

PANEL DISCUSSION: ARE BONE SARCOMAS CURABLE?

BRADLEY E. COLEY, New York, Moderator

Panel Members: C. HOWARD HATCHER, Chicago; MURRAY M. COPELAND, Washington, D. C.; LAUREN V. ACKERMAN, St. Louis; J. VERNON LUCK, Los Angeles; and NORMAN L. HIGINBOTHAM, New York.

SECTION ON PATHOLOGY AND PHYSIOLOGY

MEETS IN BAROQUE ROOM OF THE BELMONT PLAZA

OFFICERS OF SECTION

Chairman—LALL G. MONTGOMERY, Muncie, Ind.
Vice Chairman—J. EARL THOMAS, Philadelphia.
Secretary—EDWIN F. HIRSCH, Chicago.
Delegate—M. G. WESTMORELAND, Chicago.
Representative to Scientific Exhibit—FRANK B. QUEEN, Portland, Ore.
Executive Committee—STANLEY P. REIMANN, Philadelphia; PAUL R. CANNON, Chicago; DR. MONTGOMERY; DR. HIRSCH; DR. WESTMORELAND.

Tuesday, June 2—9 a. m.

The Comparative Physiology of the Kidney.
HOMER W. SMITH, New York.
Discussion to be opened by ROBERT F. PITTS, New York.

Metabolism of Uric Acid and Its Relation to Gout.
WILLIAM S. HOFFMAN, Chicago.
Discussion to be opened by ALEXANDER B. GUTMAN, New York.

Chemical Inactivation of Viruses in Blood and Plasma.
FRANK W. HARTMAN, GEORGE MAGNUM, A. R. KELLEY, and GERALD LO GRIPPO, Detroit.
Discussion to be opened by BETTYLEE HAMPIL, Glenolden, Pa.

Immunohematologic Studies in Hemolytic Anemia.
ISRAEL DAVIDSOHN, Chicago.

Newer Approaches to the Study of Hemophilia and Hemophilia-Like Hemorrhagic States.
K. M. BRINKHOUS, R. D. LANGDELL, G. D. PENICK, J. B. GRAHAM, and R. H. WAGNER, Chapel Hill, N. C.
Discussion on papers of DR. DAVIDSOHN and DRS. BRINKHOUS et al. to be opened by MATTHEW H. BLOCK, Chicago, and MAX M. STRUMIA, Bryn Mawr, Pa.

Factors Determining Arterial Blood Pressure.
LYSLE H. PETERSON, Philadelphia.
Discussion to be opened by J. EARL THOMAS, Philadelphia.

Post-Emphysematous or Phrenic Hypertension: An Analysis of 75 Cases of Chronic Asthma Complicated by Emphysema.
CHARLES F. GESHICKTER and ANTOINETTE POPOVICI, Washington, D. C.
Discussion to be opened by ALBERT H. ANDREWS JR., Chicago.

Wednesday, June 3—9 a. m.

BUSINESS MEETING.

ELECTION OF OFFICERS.

Chairman's Address: Medical Technology and Its Relation to Physiology and Pathology.
LALL G. MONTGOMERY, Muncie, Ind.

Blood Volume: Evaluation of Methods and Interpretation of Results.
M. I. GREGERSEN, New York.

Control of Trichinosis by Irradiation of Pork.
S. E. GOULD, Eloise, Mich.
Discussion to be opened by HENRY J. GOMBERG and FRANK H. BETHELL, Ann Arbor, Mich., and VERNON B. LINK, Atlanta, Ga.

Diffuse Interstitial Fibrosis of the Lungs.
ALFRED GOLDEN and THEODORE T. BRONK, Buffalo.
Discussion to be opened by MAURICE N. RICHTER, New York, and MILTON G. BOHROD, Rochester, N. Y.

Atypical Adenoma of the Thyroid.
JOHN B. HAZARD and REX KENYON, Cleveland.

Distribution of Thyroid Cancer in Thyroid Glands with Discussion of Clinical Significance in Treatment.
WILLIAM O. RUSSELL, R. LEE CLARK JR., and CANDIDO DE OLIVEIRA, Houston, Texas.
Discussion on papers of DRS. HAZARD and KENYON and DRS. RUSSELL, CLARK and DE OLIVEIRA to be opened by W. A. D. ANDERSON, Milwaukee.

Histologic Classification and Prognosis of Hydatidiform Moles.
HUGH G. GRADY, Gaithersburg, Md., and CHARLES I. BRYANS JR., Augusta, Ga.
Discussion to be opened by GEORGE MILLES, Chicago.

A Hyperglycemic Agent in Pancreatic Extracts: A Possible Factor in Certain Types of Diabetes.
I. J. PINCUS, Philadelphia.
Discussion to be opened by JOSEPH T. BEARDWOOD, Philadelphia, and RACHMIEL LEVINE, Chicago.

Thursday, June 4—9 a. m.

JOINT MEETING WITH SECTION ON GASTROENTEROLOGY AND PROCTOLOGY IN THE GRAND BALLROOM OF THE NEW YORKER

Polyps of the Colon and Rectum.
NEIL W. SWINTON, Boston.
Discussion to be opened by MARIE ORTMAYER, Chicago; JAY M. GARNER, Winnetka, Ill., and ROBERT A. SCARBOROUGH, San Francisco.

Pathology of Regional Ileitis and Ulcerative Colitis.
SHIELDS WARREN and SHELDON C. SOMMERS, Boston.
Discussion to be opened by JOSEPH B. KIRSNER, Chicago; RICHARD B. CATTELL, Boston, and BURRILL B. CROHN, New York.

The Role of the Adrenal Steroids in the Pathogenesis of Peptic Ulcer.
SEYMOUR J. GRAY, COLIN G. RAMSEY, ROBERT W. REIFENSTEIN, and JOHN A. BENSON, Boston.
Discussion to be opened by HARRY SHAY, Philadelphia; DAVID J. SANDWEISS, Detroit, and MORTON I. GROSSMAN, Chicago.

The Two-Component Mucous Barrier: Its Role in Protecting the Gastroduodenal Mucosa Against Peptic Ulceration.
FRANKLIN HOLLANDER, New York.
Discussion to be opened by J. EARL THOMAS, Philadelphia.

Enterobius Vermicularis Granuloma of the Appendix Vermiformis.
JOHN R. SCHENKEN, Omaha; FRANCIS C. COLEMAN, Des Moines, Iowa, and EMMA S. MOSS, New Orleans.

The Management of Enterobiasis.
WILLIAM J. ECKERLE, Rolling Hills, Calif.
Discussion on papers of DRS. SCHENKEN, COLEMAN, and MOSS, and ECKERLE to be opened by EMMA S. MOSS, New Orleans.

The Oral Use of Hydrocortisone (Compound F) in the Treatment of Sprue.
DAVID ADLERSBERG, HENRY COLCHER, and CHUN-I WANG, New York.
Discussion to be opened by PERRY J. CULVER, Boston.

SECTION ON PEDIATRICS

MEETS IN GRAND BALLROOM OF THE COMMODORE

OFFICERS OF SECTION

Chairman—EUGENE T. MCENERY, Chicago.
Vice Chairman—OLIVER L. STRINGFIELD, Stamford, Conn.
Secretary—WYMAN C. C. COLE, Detroit.
Delegate—WOODRUFF L. CRAWFORD, Rockford, Ill.
Representative to Scientific Exhibit—F. THOMAS MITCHELL, Memphis, Tenn.
Executive Committee—JOSEPH B. BILDERBACK, Portland, Ore.; WALTER B. STEWART, Atlantic City, N. J.; DR. MCENERY; DR. COLE; DR. CRAWFORD.

Tuesday, June 2—2 p. m.

JOINT MEETING WITH SECTION ON RADIOLOGY

Emergencies in the New-Born.
GEORGE COOPER JR., MCLEMORE BIRDSONG, and RANDOLPH BRADSHAW, Charlottesville, Va.
Discussion to be opened by FRED H. WILKE, New York.

Physiological Bowing of the Legs in Young Children.
JOHN F. HOLT and HOWARD B. LATOURETTE, Ann Arbor, Mich.
Discussion to be opened by KENNETH D. A. ALLEN, Denver.

Specificity of Roentgen Findings in Suppurative Pneumonia of Infants and Children.
J. A. CAMPBELL and DAVID C. GASTINEAU, Indianapolis.
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Hirschsprung's Disease: The Roentgen Diagnosis in Infants and Young Children.
RAYMOND G. MCDONALD and WILLIAM E. EVANS, Detroit.
Discussion to be opened by GEORGE P. KEEFER, Philadelphia.

Cholecystography During the First Months of Life.
JOHN CAFFEY and RUTH HARRIS, New York.
Discussion to be opened by FREDERICK N. SILVERMAN, Cincinnati.

Lesions of the Esophagus in Infancy.
EDWARD B. D. NEUHAUSER, Boston.
Discussion to be opened by WILLIAM H. SHEHADI, New York.

Wednesday, June 3—2 p. m.

BUSINESS MEETING.

ELECTION OF OFFICERS.

Chairman's Address. EUGENE T. MCENERY, Chicago.

Symposium on Prevention of Needless Neonatal Deaths

From the Viewpoint of the Public Health Officer.
HERMAN N. BUNDESEN, Chicago.
Discussion to be opened by JOSEPH G. MOLNER, Detroit, and SAMUEL M. WISHIK, Pittsburgh.

From the Viewpoint of the Hospital Administrator.
CHARLES U. LETOURNEAU, Chicago.
Discussion to be opened by ANTHONY J. J. ROURKE, New York.

From the Viewpoint of the Pediatrician.
STEWART H. CLIFFORD, Brookline, Mass.
Discussion to be opened by SAMUEL Z. LEVINE and LEONA BAUMGARTNER, New York.

From the Viewpoint of the Obstetrician.
CARL F. HUBER, Indianapolis.
Discussion to be opened by CARL GOLDMARK JR., New York, and NICHOLSON J. EASTMAN, Baltimore.

Thursday, June 4—2 p. m.

JOINT MEETING WITH SECTION ON PHYSICAL MEDICINE AND REHABILITATION AND SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH

RUTHERFORD T. JOHNSTONE, Los Angeles, Presiding

Address of Chairman of Section on Preventive and Industrial Medicine and Public Health.
VLADO A. GETTING, Boston.

Epidemiologic Aspects of the Uses of Gamma Globulin in Poliomyelitis. JOSEPH A. BELL, Bethesda, Md.

National Policies Relative to the Distribution of Gamma Globulin. W. H. AUFRANC, Washington, D. C.

Present Status and Future Possibilities of Vaccine for the Control of Poliomyelitis.
ALBERT B. SABIN, Cincinnati.

Differential Diagnosis of Poliomyelitis.
CLIFFORD G. GRULEE JR., New Orleans.

Treatment of Acute Phase of Poliomyelitis.
ALEX J. STEIGMAN, Louisville, Ky.

The Early Treatment of Poliomyelitis.
JESSIE WRIGHT, Pittsburgh.
Discussion to be opened by DUANE A. SCHRAM, Gonzales, Texas.

Rehabilitation in Poliomyelitis.
ROBERT L. BENNETT, Warm Springs, Ga.
Discussion to be opened by MORTON HOBERMAN, New York.

SECTION ON PHYSICAL MEDICINE AND REHABILITATION

MEETS IN NORTH BALLROOM OF THE NEW YORKER

OFFICERS OF SECTION

Chairman—KRISTIAN G. HANSSON, New York.
Vice Chairman—WALTER M. SOLOMON, Cleveland.
Secretary—WALTER J. ZEITER, Cleveland.
Delegate—FRANK H. KRUSEN, Rochester, Minn.
Representative to Scientific Exhibit—ARTHUR L. WATKINS, Boston.
Executive Committee—GEORGE MORRIS PIERSOL, Philadelphia; HOWARD A. RUSK, New York; DR. HANSSON; DR. ZEITER; DR. KRUSEN.

Tuesday, June 2—9 a. m.

PANEL ON GERIATRICS

Kristian G. Hansson, New York, Moderator

Rehabilitation in General in Geriatrics.
EDWARD J. LORENZE, White Plains, N. Y.

Physical Medicine and Rehabilitation for the Elderly Neurologic Patient. ARTHUR L. WATKINS, Boston.

Peripheral Vascular Disease in Geriatrics.
CHARLES S. WISE, Washington, D. C.

Medical Aspects in Geriatrics.
HAROLD DINKEN, Denver.

Wednesday, June 3—9 a. m.

PANEL ON ARTHRITIS

FRANK H. KRUSEN, Rochester, Minn., Moderator

Classification of Arthritis.
ROBERT M. STECHER, Cleveland.

Rehabilitation in Arthritis.
DONALD L. ROSE, Kansas City, Kan.

Surgery in the Rehabilitation of the Arthritic.
LEE RAMSAY STRAUB, New York.

Medication for Arthritis.
RICHARD H. FREYBERG, New York.

Thursday, June 4—2 p. m.

JOINT MEETING WITH SECTION ON PEDIATRICS AND SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH IN GRAND BALLROOM OF THE COMMODORE

RUTHERFORD T. JOHNSTONE, Los Angeles, Presiding

Address of Chairman of Section on Preventive and Industrial Medicine and Public Health.
VLADO A. GETTING, Boston.

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Rehabilitation in Poliomyelitis.
ROBERT L. BENNETT, Warm Springs, Ga.
Discussion to be opened by MORTON HOBERMAN, New York.

SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH

MEETS IN BASILDON ROOM OF THE WALDORF-ASTORIA

OFFICERS OF SECTION

Chairman—VLADO A. GETTING, Boston.
Vice Chairman—JEAN S. FELTON, Oak Ridge, Tenn.
Secretary—FRANK PRINCI, Cincinnati.
Delegate—RUTHERFORD T. JOHNSTONE, Cincinnati.
Representative to Scientific Exhibit—PAUL A. DAVIS, Akron, Ohio.
Executive Committee—RUTHERFORD T. JOHNSTONE, Los Angeles; CAREY P. MCCORD, Ann Arbor, Mich.; DR. GETTING; DR. PRINCI.

Tuesday, June 2—9 a. m.

PANEL ON CIVIL DEFENSE

VLADO A. GETTING, Boston, Moderator

Health Programs in Civil Defense.
KENNETH C. CHARRON, Ottawa, Canada.

Emergency Public Health and Sanitation.
ROBERT H. FLINN, Washington, D. C.

Blood Derivatives and Plasma Volume Expanders.
JOHN B. ALSEVER, Washington, D. C.

Chemical Warfare in Civil Defense.
THOMAS H. ALPHIN, Washington, D. C.

Biological Warfare in Civil Defense.
JOHN J. PHAIR, Cincinnati.

Civil Defense in Industry.
M. N. NEWQUIST, New York.

Improved Hospitals.
CARLISLE S. LENTZ, Washington, D. C.

Wednesday, June 3—9 a. m.

INDUSTRIAL MEDICINE

JEAN S. FELTON, Oak Ridge, Tenn., Presiding

Industrial Medical Service by Private Practitioners.
JAMES P. HUGHES, Cincinnati.

Clinical Prevention of Alcohol Addiction.
R. G. BELL, Ontario, Canada.

Criteria for Retirement in Industry
CHARLES G. DUTCHESS, New York.

The Cardiac in Industry.
E. M. KLINE, Cleveland.

An Industrial and Laboratory Evaluation of a Silicone Protective Cream.
RAYMOND R. SUSKIND, Cincinnati.

Thursday, June 4—2 p. m.

JOINT MEETING WITH SECTION ON PEDIATRICS AND SECTION ON PHYSICAL MEDICINE AND REHABILITATION IN GRAND BALLROOM OF THE COMMODORE

RUTHERFORD T. JOHNSTONE, Los Angeles, Presiding

Chairman's Address.
VLADO A. GETTING, Boston.

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Rehabilitation in Poliomyelitis.
ROBERT L. BENNETT, Warm Springs, Ga.
Discussion to be opened by MORTON HOBERMAN, New York.

SECTION ON RADIOLOGY

MEETS IN MODERNE ROOM OF THE BELMONT PLAZA

OFFICERS OF SECTION

Chairman—PAUL C. HODGES, Chicago.
Vice Chairman—KENNETH D. A. ALLEN, Denver.
Secretary—TRAIAN LEUCUTIA, Detroit.
Delegate—B. R. KIRKLIN, Rochester, Minn.
Representative to Scientific Exhibit—RICHARD H. CHAMBERLAIN, Philadelphia.
Executive Committee—J. C. DICKINSON, Tampa, Fla.; IRA H. LOCKWOOD, Kansas City, Mo.; DR. HODGES; DR. LEUCUTIA; DR. KIRKLAND.

Tuesday, June 2—2 p. m.

JOINT MEETING WITH SECTION ON PEDIATRICS IN THE GRAND BALLROOM OF THE COMMODORE

Emergencies in the New-Born.
GEORGE COOPER JR., MCLEMORE BIRDSONG, and RANDOLPH BRADSHAW, Charlottesville, Va.
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Physiological Bowing of the Legs in Young Children.
JOHN F. HOLT and HOWARD B. LATOURETTE, Ann Arbor, Mich.
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J. A. CAMPBELL and DAVID C. GASTINEAU, Indianapolis.
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JOHN CAFFEY and RUTH HARRIS, New York.
Discussion to be opened by FREDERICK N. SILVERMAN, Cincinnati.

Lesions of the Esophagus in Infancy.
EDWARD B. D. NEUHAUSER, Boston.
Discussion to be opened by WILLIAM H. SHEHADI, New York.

Wednesday, June 3—2 p. m.

ELECTION OF OFFICERS

Symposium on Roentgen Examination of the Gastrointestinal Tract

Chairman's Address: Roentgen Examination of the Colon.
PAUL C. HODGES, Chicago.

Gastric Diverticula.
ARNO W. SOMMER and W. A. GOODRICH, Temple, Texas.

Roentgen Aspects of Some Benign and Malignant Ulcerations of the Stomach.
SAMUEL RICHMAN, Richmond, Va.
Discussion on papers of DRS. SOMMER and GOODRICH and DR. RICHMAN to be opened by ROSS GOLDEN, New York.

The Limitations of the Diagnostic Procedures of the Roentgenologic Examination of the Gastrointestinal Tract.
PAUL C. SWENSON and ROBERT B. JEFFREY, Philadelphia.
Discussion to be opened by KENNETH E. FRY, Philadelphia.

Routine Search for Colonic Polypi by High Voltage Roentgenography.
CESARE GIANTURCO and GEORGE A. MILLER, Urbana, Ill.
Discussion to be opened by CHARLES H. DRENCKHAHN, Urbana, Ill.

X-Ray Examination in Organic Disease of the Small Intestine.
ROSS GOLDEN and PABLO MORALES, New York.
Discussion to be opened by PHILIP J. HODES, Philadelphia.

Thursday, June 4—2 p. m.

Observations on Rotational Therapy with Two Million Volt Roentgen Rays.
JOHN G. TRUMP and HUGH F. HARE, Boston.
Discussion to be opened by MORTON M. KLIGERMAN, New York.

The Radiation Management of Otherwise Hopeless Thoracic Neoplasms.
ROGER A. HARVEY, LEWIS L. HAAS and SEYMOUR S. LANGER, Chicago.
Discussion to be opened by THEODORE P. EBERHARD, Philadelphia.

Symposium on the Use of Radioisotopes in a General Hospital

Design of Radioisotope Laboratories for General Hospitals.
CARL B. BRAESTRUP, New York.

The Radioisotope Program in the General Hospital.
EDITH H. QUIMBY, New York.
Discussion on papers of DRS. BRAESTRUP and QUIMBY to be opened by SERGEI FEITELBERG, New York.

Diagnostic Use of Radioisotopes in a General Hospital.
R. W. EMERICK, L. E. HOLLY, A. H. JOISTAD, and K. E. CORRIGAN, Muskegon, Mich.

Therapeutic Value of Radioisotopes in a General Hospital.
CARLETON B. PEIRCE, Montreal, Canada.
Discussion on papers of DRS. EMERICK et al., and DR. PEIRCE to be opened by HYMER L. FRIEDELL, Cleveland; BERNARD ROSWIT, New York, and W. EDWARD CHAMBERLAIN, Philadelphia.

SECTION ON SURGERY, GENERAL AND ABDOMINAL

MEETS IN TOWN HALL

OFFICERS OF SECTION

Chairman—I. RIDGEWAY TRIMBLE, Baltimore.
Vice Chairman—FRANK L. A. GERBODE, San Francisco.
Secretary—WALTER G. MADDOCK, Chicago.
Delegate—GROVER C. PENBERTHY, Detroit.
Representative to Scientific Exhibit—JOHN H. MULHOLLAND, New York.
Executive Committee—I. S. RAVDIN, Philadelphia; I. MIMS GAGE, New Orleans; DR. TRIMBLE; DR. MADDOCK; DR. PENBERTHY.

Tuesday, June 2—2 p. m.

The Management of Remaining Common Duct Stones by Various Solvents and the Biliary Flush Regimen.
R. RUSSELL BEST, JOHN A. RASMUSSEN and CARLYLE WILSON, Omaha.
Discussion to be opened by WALTMAN WALTERS, Rochester, Minn., and FRANK GLENN, New York.

Chronic Pancreatitis and Associated Stenosis of the Common Bile Duct: Treatment by Roux Y Choledochojejunostomy.
FRANK F. ALLBRITTEN JR., Philadelphia.
Discussion to be opened by JOHN B. MULHOLLAND, New York, and JONATHAN E. RHOADS, Philadelphia.

Bilateral Adrenalectomy for Severe Hypertension.
RALPH F. BOWERS, Memphis, Tenn.
Discussion to be opened by HAROLD ZINTEL and WILLIAM A. JEFFERS, Philadelphia.

Surgery of the Elderly. JOHN D. STEWART, Buffalo.
Discussion to be opened by WARREN H. COLE, Chicago.

Pancreatic Considerations in Gastric Surgery.
KENNETH W. WARREN, Boston.
Discussion to be opened by G. GAVIN MILLER, Montreal, Canada, and ROBERT COFFEY, Washington, D. C.

The Surgical Management of Arteriosclerotic Abdominal Aortic Aneurysms.
J. M. WAUGH, J. H. GRINDLAY, J. W. KIRKLIN, and C. R. OPENSHAW, Rochester, Minn.
Discussion to be opened by ARTHUR H. BLAKEMORE, New York, and GEZA DE TAKATS, Chicago.

Wednesday, June 3—2 p. m.

ELECTION OF OFFICERS

Chairman's Address. I. RIDGEWAY TRIMBLE, Baltimore.

The Treatment of Cardiac Arrest and Ventricular Fibrillation. JULIAN JOHNSON, Philadelphia.
Discussion to be opened by CLAUDE BECK, Cleveland, and E. M. PAPPER, New York.

The Treatment of Interauricular Septal Defects. ROBERT E. GROSS, Boston.

Some Experiences with the Mechanical Heart in Human Surgery. F. D. DODRILL, Detroit.

The Rational Use of Antibiotic Therapy in the Control of Surgical Infections. FRANK L. MELENEY, New York.
Discussion to be opened by WILLIAM R. SANDUSKY, Charlottesville, Va.

Thursday, June 4—2 p. m.

The Modern Treatment of Hirschsprung's Disease. ORVAR SWENSON, Boston.
Discussion to be opened by C. EVERETT KOOP, Philadelphia, and ROBERT B. HIATT, New York.

Hypotensive Anesthesia for Radical Pelvic and Abdominal Surgery. C. PAUL BOYAN, New York.
Discussion to be opened by ALEXANDER BRUNSCHWIG, New York.

Nutrition Following Gastric Operations for Peptic Ulcer. ROBERT M. ZOLLINGER and E. H. ELLISON, Columbus, Ohio.

The Low Sodium Syndrome in Surgical Patients: Deficiency, Maldistribution or Dilution? FRANCIS D. MOORE, Boston.
Discussion to be opened by H. T. RANDALL, New York, and JAMES D. HARDY, Memphis, Tenn.

The Application of Intestinal Antisepsis in Surgery. EDGAR J. POTH, Galveston, Texas.
Discussion to be opened by WARFIELD M. FIROR, Baltimore, and ROBERT A. SCARBOROUGH, San Francisco.

Current Procedure in the Management of Small Bowel Obstruction. CLARENCE DENNIS, New York.
Discussion to be opened by LELAND S. MCKITTRICK, Boston, and JOHN R. PAINE, Buffalo.

SECTION ON UROLOGY

MEETS IN NORTH BALLROOM OF THE ASTOR

OFFICERS OF SECTION

Chairman—EARL E. EWERT, Boston.
Vice Chairman—REX E. VAN DUZEN, Dallas, Texas.
Secretary—RUBIN H. FLOCKS, Iowa City.
Delegate—JAY J. CRANE, Los Angeles.
Representative to Scientific Exhibit—ROGER W. BARNES, Los Angeles.
Executive Committee—JOHN ARTHUR TAYLOR, New York; JOHN R. HAND, Portland, Ore.; DR. EWERT; DR. FLOCKS; DR. CRANE.

Tuesday, June 2—9 a. m.

The Management of Kidney Injuries. HARRY M. SPENCE, SIDNEY S. BAIRD, and ELGIN W. WARE, Dallas, Texas.

Injuries of the Ureter. HAMILTON W. MCKAY, H. HAYNES BAIRD, and HOMER R. JUSTIS, Charlotte, N. C.

Bladder Injuries: Diagnosis and Treatment. GEORGE C. PRATHER, Brookline, Mass.

The Management of Urethral Injuries. WILLIAM J. BAKER, Chicago.
Discussion to be opened by MOSES SWICK, New York.

The Male Factors in Infertility. JOHN MACLEOD, New York.

Mechanical Aspects and Surgical Corrections of Male Sterility. VINCENT J. O'CONOR, Chicago.

Endocrinological Aspects of Male Infertility. PETER M. F. BISHOP, London, England.
Discussion to be opened by ROBERT S. HOTCHKISS, New York, and NORRIS J. HECKEL, Chicago.

Tuesday, June 2—2:30 p. m.

Discussion of Section Exhibits in Booths in Scientific Exhibit at Grand Central Palace.

Wednesday, June 3—9 a. m.

ELECTION OF OFFICERS.

Chairman's Address: The Effect of Supervoltage Rotational X-Ray Therapy on Extensive Carcinoma of the Bladder. EARL E. EWERT, Boston.

The Clinical Significance of Hematuria. CHARLES C. HIGGINS, Cleveland.
Discussion to be opened by LAURENCE F. GREENE, Rochester, Minn.

Anatomy and Physiology of the Urinary Bladder. CHARLES N. DUNCAN and REX E. VAN DUZEN, Dallas, Texas.

Cystometry, the Reflex Hammer of Bladder Activity. REED M. NESBIT and WILLIAM C. BAUM, Ann Arbor, Mich.

The Clinical Management of Urinary Retention in Children. TRACY O. POWELL and HAROLD N. EDELBROCK, Los Angeles.

Vesical Neck Dysfunction Due to Long-Standing Cord Injury. GERSHOM J. THOMPSON, Rochester, Minn.

Wednesday, June 3—2:30 p. m.

Discussion of Section Exhibits in Booths in Scientific Exhibit at Grand Central Palace.

Thursday, June 4—9 a. m.

The Treatment of Urinary Tract Infections. DEAN PARKER, Seattle.

The Management of Vesicourethral Dysfunction in Women. RUSSELL CARSON, Fort Lauderdale, Fla.

The Management of Bladder Irritation in the Female. HAROLD A. O'BRIEN, Dallas, Texas.
Discussion to be opened by ORMOND S. CULP, Rochester, Minn.

Radical Prostatectomy. JOHN K. LATTIMER and ARCHIE L. DEAN, New York.

Malignant Tumors of the Testis. J. C. KIMBROUGH and F. E. COOK, Washington, D. C.
Discussion to be opened by JOHN A. TAYLOR, New York.

Treatment of Hypospadias. FRED Z. HAVENS, Rochester, Minn.
Discussion to be opened by VICTOR MARSHALL, New York.

Thursday, June 4—2:30 p. m.

Discussion of Section Exhibits in Booths in Scientific Exhibit at Grand Central Palace.

COLOR TELEVISION

A Color Television Program originating at New York Hospital will be presented in the Hendrik Hudson Room of the Roosevelt Hotel. For the first time the color television will be projected on two large—five by six feet—screens. The program is sponsored by the Smith, Kline and French Laboratories.

THE SCIENTIFIC EXHIBIT

The Scientific Exhibit will be located on the fourth floor of Grand Central Palace, reached by stairs from the Technical Exposition or by elevators at either side of the Registration Desks on the first floor. The entrance to the building is on Lexington Avenue, between 46th Street and 47th Street.

The Committee on Scientific Exhibit has arranged three special exhibits on fractures, fresh pathology, and artificial respiration. Several exhibits on the prevention of accidents in children have been prepared under the auspices of the Section on Pediatrics.

The 20 Sections of the Scientific Assembly have organized groups of exhibits dealing with their respective specialties in medicine. Emphasis is placed, however, on the interest of the physician in general practice rather than that of the specialist in each group.

The Scientific Exhibit will open at 9:00 a. m. on Monday, June 1, and will close at 12:00 noon on Friday, June 5. On intervening days, the hall will be open from 8:30 a. m. to 5:30 p. m.

The Scientific Exhibit is presented "by doctors for doctors" and not for the general public. Admission will be limited, therefore, to persons wearing the membership badge or other official badge of the Convention.

Committee on Scientific Exhibit

L. W. Larson, Bismarck, N. D., Chairman.
Thomas P. Murdock, Meriden, Conn.
James R. McVay, Kansas City, Mo.
Thomas G. Hull, Chicago, Director.

Special Exhibit on Fractures

The Special Exhibit on Fractures is presented under the auspices of the following committee:

Gordon M. Morrison, Boston, chairman
Ralph G. Carothers, Cincinnati
Herbert Virgin Jr., Miami, Fla.
Kellogg Speed, Chicago, member emeritus

Continuous demonstrations will be conducted each morning and afternoon on five subjects as follows:

Fracture of the Lower End of the Radius
Fractures of the Ankle
Compression Fracture of the Spine
Supracondylar Fracture of the Humerus
Fall on the Extended Hand

The demonstrations will stress elementary points in treatment based on the pathology of each type of fracture for the instruction of the physician in general practice. A pamphlet presenting the essential features of the exhibit has been prepared for distribution.

The following demonstrators will assist the Committee in the presentation of the exhibit:

Roy E. Brackin, Winnetka, Ill.
Kenneth Christophe, Brookline, Mass.
M. C. Cobey, Washington, D. C.
John J. Crowley, Lynn, Mass.
Edward P. Daly, New York
John L. Doherty, Boston
F. Paul Duffy, Cincinnati
Daniel B. Eck, East Orange, N. J.
Herbert C. Fett Jr., Brooklyn, N. Y.
John J. Flanagan, Newark, N. J.
Alexander Garcia, New York
Maurice Gershman, Far Rockaway, N. Y.
Nicholas J. Giannestras, Cincinnati
M. E. Gibbens, Denver
Morris E. Goldman, Lewiston, Maine
W. A. Grosjean, Winfield, Kan.
Edward D. Hagerty, Manchester, N. H.
Harry B. Hall, Minneapolis
Charles V. Heck, Chicago
Walter F. Jennings, Hartford, Conn.
Louis W. Jones, Wilkes-Barre, Pa.
Richard M. Kilfoyle, Boston
William J. Kisiel, Springfield, Mass.
J. Earl Miles, Brooklyn, N. Y.
John J. Milroy, Waukegan, Ill.
E. M. Neptune, Syracuse, N. Y.
Roland F. Neumann, St. Louis
Walter R. Peterson, Clinton, N. J.
H. E. Reading, Paterson, N. J.
Col. Oscar Reeder, Washington, D. C.
Edmund T. Rumble Jr., Callicoon, N. Y.
Jarvis M. Smith, Montclair, N. J.
Paul Strassburger, Belleville, N. J.
Dana M. Street, Memphis
Peter W. Sweetser, New Bedford, Mass.
Col. Lloyd W. Taylor, Denver
Col. Milton S. Thompson, San Antonio, Texas
Theodore H. Vinke, Cincinnati
Paul Wiesenfeld, Perth Amboy, N. J.

Names of additional demonstrators will appear in the Official Program.

Special Exhibit on Fresh Pathology

The Special Exhibit on Fresh Pathology is presented by the Section on Pathology and Physiology with the cooperation of the New York Pathological Society. Various hospitals, medical schools, and laboratories in the New York area are lending assistance. Interesting specimens will be collected daily and rushed to Grand Central Palace by special messenger.

The following committees have been appointed:

Advisory Committee

Frank B. Queen, Portland, Ore., chairman
L. G. Montgomery, Muncie, Ind.
J. Earl Thomas, Philadelphia
Edwin F. Hirsch, Chicago
M. G. Westmoreland, Chicago
H. J. Corper, Denver

Local Committee

Milton Helpern, New York, chairman
Maxwell J. Fein, New York
Thomas A. Gonzales, New York
John G. Kidd, New York
Paul Klemperer, New York
James R. Lisa, New York
Harrison J. Martland, Newark, N. J.
Jean Oliver, New York
Harry P. Smith, New York
Francis D. Speer, New York
William C. Von Glahn, New York
Jacob Werne, New York

More than 50 prominent pathologists, whose names will appear in the Official Program, will assist with the demonstrations, which will begin each day at 8:30 a. m. and be carried through continuously until 5:30 p. m. The schedule will be published in the Daily Bulletin at the time of the meeting.

Special Exhibit on Artificial Respiration

The Special Exhibit on Artificial Respiration will be presented again for the benefit of physicians interested in the back-pressure arm-lift method. Practical demonstrations on live subjects will be presented throughout the week.

The Council on Physical Medicine and Rehabilitation of the American Medical Association is cooperating with the American National Red Cross in the program.

The following Committee is in charge of the demonstrations:

ARCHER S. GORDON, Chicago, chairman
NORMAN ENGELSEN, New York
PETER KARPOVICH, Springfield, Mass.
ROBERT G. NIMS, Philadelphia
JAMES WHITTENBERGER, Boston
FREDERIC T. JUNG, Chicago
HOWARD A. CARTER, Chicago

Many organizations have interested themselves in this new procedure. Physicians are urged to acquaint themselves with it in order to answer the questions which are certain to arise in their local communities.

The demonstrations on live subjects will be supplemented by charts, illustrations, and mechanical models to show the physiology of the process, its effectiveness in saving life, and its superiority to former methods of artificial respiration.

SECTION EXHIBITS

Each of the 20 sections of the Scientific Assembly has arranged a group of exhibits dealing with the various branches of medicine.

Section on Anesthesiology

The representative to the Scientific Exhibit from the Section on Anesthesiology is SCOTT M. SMITH, Salt Lake City.

Endotracheal Anesthesia for Tonsillectomy and Adenoidectomy in Children

JOHN W. PENDER and O. E. HALLBERG, Mayo Clinic, Rochester, Minn.

The advantages of endotracheal anesthesia in adults in operation in or about the mouth have long been recognized, but this method has not been used as widely in children. Six years of experience during which endotracheal anesthesia was used routinely for tonsillectomy and adenoidectomy in children has shown that this method leads to (1) more safety for the patient, (2) better exposure of the operating field for the surgeon, and (3) more complete control of anesthesia. The complications encountered in over a thousand children to whom endotracheal anesthesia was administered for tonsillectomy and adenoidectomy are presented. This exhibit demonstrates with models and diagrams (1) the position of the endotracheal tube in relation to the surgical instruments used during various stages of the operation and (2) the equipment used and the various methods employed to deliver the anesthetic gases through the endotracheal tube to the lungs.

Prolonged Spinal Anesthesia for Fourteen, Eleven, and Seven Days Respectively

F. PAUL ANSBRO, FRANCIS S. LATTERI, and ALBERT E. BLUNDELL, St. Catherine's Hospital and Adelphi Hospital, Brooklyn.

In the treatment of peripheral vascular conditions, prolonged spinal anesthesia was found effective in relieving vasospasm and pain. The mechanisms of its action, the agents used, and an explanation of the procedure are presented. An illuminated spine and the connections of the sympathetic nerves to the vascular tree are shown on models.

Body Temperature During Anesthesia

ROBERT E. CLARK, LOUIS R. ORKIN, and E. A. ROVENSTINE, New York University Post-Graduate Medical School, New York.

A clinical study of body temperature in anesthetized patients is presented. The following aspects, illustrated by charts, are demonstrated: (1) the effects of environmental temperature from 75 F to 95 F on body temperature; (2) the effects of high and low humidity on body temperature; (3) the temperatures in esophagus, stomach, and trachea, and in various parts of certain anesthesia systems; (4) the to-and-fro, circle, and non-rebreathing anesthesia systems are compared in their effects on body temperature. Treatment of heat disorders is outlined, and charts showing the effects of treatment on patients with heat retention are presented.

Stellate Ganglion Block

DANIEL C. MOORE, the Mason Clinic, Seattle.

The exhibit outlines the indications for stellate ganglion block. The author's technique is depicted by colored drawings and by use of a model on which the physicians visiting the booth may execute a stellate ganglion block. When the needle is correctly placed in the model, a bell rings indicating the correct placement of the needle. The complications with this technique are enumerated, and the results of 1,250 blocks in approximately 300 patients are reviewed. Pamphlets covering the information presented will be available for those interested.

Surgical Risk from the Standpoint of Anesthesia

JOHN ADRIANI and WILLIAM L. BERSON, Charity Hospital, New Orleans.

It is not uncommon to have patients for operations who are excellent risks from the standpoint of surgery but who are obviously poor risks from the standpoint of anesthesia. The successful outcome of the operation is governed more by the conduct of anesthesia than of surgery. Others, of course, are obviously poor risks from both the standpoint of surgery and anesthesia. The exhibit depicts the various types of poor risks most commonly encountered, the reason they are poor risks, the most hazardous types of anesthesia for these risks, the most desirable type of anesthetic, and commonest pitfalls, prophylactic measures to be instituted to avoid complications and fatalities, and other data and facts of interest in making anesthesia safe.

The Clinical Usage of Succinylcholine

DAVID M. LITTLE JR., DORIS C. GROSSKREUTZ, and EDWIN M. FULLER, Yale University School of Medicine, New Haven, Conn.

The exhibit depicts various clinical uses of succinylcholine including: (*a*) facilitation of endotracheal intubation; (*b*) continuous relaxation for prolonged intra-abdominal procedures; (*c*) momentary relaxation for closed reduction of fractures, sphincter relaxation during hemorrhoidectomy, and treatment of laryngospasm; and (*d*) application of its brief relaxant activity to electroconvulsive therapy.

Studies of Analgesia in Human Beings

ERWIN G. GROSS, STUART C. CULLEN, and R. T. TIDRICK, University Hospitals, Iowa City.

A summary of four years' study on the development of new analgetics is presented. This includes the assay of new drugs on human volunteers, utilizing the Hardy-Woolf-Goodell apparatus, the preliminary use of such agents in patients with terminal carcinoma, the use of the drugs as an adjunct to nitrous oxide anesthesia, and the use of the drugs for the relief of postoperative pain. Emphasis is given to the studies of Dromoran and its optical isomers.

Pressure Breathing

MEYER SAKLAD, ELIHU SAKLAD, and JOHN F. ROCKETT JR., Rhode Island Hospital, Providence, R. I.

The following features in regard to pressure breathing are considered: historical aspects of pressure breathing devices; physiological effects of pressure breathing; means to overcome the hazards of pressure breathing; and indications for and contraindications to pressure breathing.

Section on Dermatology and Syphilology

The representative to the Scientific Exhibit from the Section on Dermatology and Syphilology is JAMES R. WEBSTER, Chicago.

Terramycin in the Treatment of Skin Diseases

HARRY M. ROBINSON JR., ALBERT SHAPIRO, ISRAEL ZELIGMAN, and MORRIS M. COHEN, University of Maryland School of Medicine, Baltimore.

This is a statistical study on the effect of terramycin used both orally and by local application in the treatment of skin diseases in over 1,500 patients. These studies were controlled by careful clinical observation and adequate laboratory examinations. The exhibit shows a series of charts demonstrating the conditions which are occasionally, partially, or temporarily improved, and these conditions not benefitted. Separate charts list the recommended dosage schedules and the number and percentage of adverse reactions. The exhibit shows that there is a definite place for the use of this broad-spectrum antibiotic in the treatment of skin diseases but that it should not be used unless there is some specific indication.

Notable Contributors to Knowledge of Dermatology and Basic Science

HERMAN GOODMAN, New York.

A set of seven albums each of approximately 100 photographic reproductions of faces of the contributors with a biographical sketch of 7 to 10 lines for each.

Keloids Treated with Hyaluronidase

THEODORE CORNBLEET and HUBERT CATCHPOLE, University of Illinois College of Medicine, Chicago.

Hyaluronidase injected into keloids soften older growths and facilitate treatment with surgery and radiation. This is discussed and illustrated with slides showing reactions of the ground substance of connective tissue of keloids before and after treatment (microscopic) and clinical methods and results. Tissues are prepared by the freezing drying technique and special stains are shown.

A Color Arcade of the Common Dermatoses

GEORGE E. MORRIS, Boston.

The central theme is a chart called Principles of Therapy of Skin Diseases. This is outlined as a "Stop Light," with green being the safest medications used, yellow for those used in subacute dermatoses, and red for those medicaments that are apt to make acute dermatoses worse. Color prints of the common dermatoses (Pityriasis Rosea, L. P., L. E.) are shown.

Ragweed Oil Dermatitis

JOHN L. FROMER, the Lahey Clinic, and WALTER S. BURRAGE, Massachusetts General Hospital, Boston.

The exhibit presents diagnosis of patients with ragweed oil dermatitis. Active dermatitis with localization is shown, together with the differential diagnosis in this often overlooked condition. Descriptions of the condition are given and aids to diagnosis, and suggestions for treatment are appended.

The Fluorescence of Epidermoid Carcinoma Under the Wood Light

F. RONCHESE, B. S. WALKER, and R. M. YOUNG, Boston University, Boston and Rhode Island Hospital, Providence, R. I.

Color photographs show a peculiar orange-red fluorescence elicited, under the Wood light, only in epidermoid (squamous cell) carcinoma. Long-standing, open, purulent lesions not carcinomatous (carbuncle, stasis ulcers, mycosis fungoides, tubercular and syphilitic gumma, and pseudoepitheliomatous hyperplasia), ulcerated basal cell epithelioma, appear under the Wood light as deep dull violet. Biochemical investigation is under way to try to explain the phenomenon.

Alopecia (Baldness) in Women

HOWARD T. BEHRMAN, New York University Post-Graduate School of Medicine, New York.

The exhibit shows photographs and charts of the various types of baldness in women including the hitherto undescribed forms of female pattern alopecia.

A New Benzothiazole Derivative in Superficial Mycoses

J. WALTER WILSON, HARRY LEVITT, and JOHN W. CARNEY, University of Southern California School of Medicine, Los Angeles, EDMOND EDELSON, Health Department, Newark, N. J., and JAMES L. O'LEARY, JEAN HOLOWACH, and DONALD L. THURSTON, Washington University School of Medicine, St. Louis.

The exhibit presents the clinical effects in tinea capitis, tinea of the glabrous skin, and onychomycosis with 2-dimethylamino-6-(beta-diethylamino ethoxy)-benzothiazole (diamthazole) in 750 patients. Results are demonstrated by means of charts and pre- and post-medication Kodachromes. Kodachromes of cultures of the offending organisms are shown. A controlled study of the potential neurotoxic effect of the drug, including electroencephalographic tracings in a sizable group of patients before, during, and after treatment with diamthazole is presented.

Tissue Cultures in the Service of Clinical Medicine

C. M. POMERAT, C. GEORGE LEFEBER, and MCDONALD SMITH, University of Texas Medical Branch, Galveston, Texas.

Eight subjects are presented: (1) chromosomes in malignancy; (2) skin in dermatological drug therapy; (3) nasal mucosa in allergy; (4) blood vessels and their pathology; (5 and 6) connective and muscular tissue responses to thermal injury; (7) brain, drug toxicity, and tumor studies, and (8) exfoliative cytology, normal and malignant. The 48 human chromosomes as seen, with the newest technique for their identification are illustrated. Illustrations of human cells in tissue culture and how each is employed for clinical investigations are shown.

Common Plantar Hyperkeratoses

ROYAL M. MONTGOMERY, SAMUEL BREZAK, and SOL MELNICK, the Hospital for Special Surgery, New York.

The exhibit consists of charts and Kodachrome prints depicting the diagnosis and treatments of the various types of plantar warts, corns, calluses, and plantar radiodermatitis.

Section on Diseases of the Chest

The representative to the Scientific Exhibit from the Section on Diseases of the Chest is EDWIN R. LEVINE, Chicago.

Analysis of Failures of Prolonged Streptomycin-PAS Treatment of Pulmonary Tuberculosis

ROGER S. MITCHELL, WM. STEENKEN JR., and GORDON M. MEADE, Trudeau Sanatorium, Trudeau, N. Y.

Two hundred and fifty patients were given SM-PAS therapy for four months or more. Treatment was started in the first patient in August, 1949, and in the last in June, 1952. Treatment is still continued in about 75 patients. Failure to achieve and maintain bacteriologic and radiologic control of disease is attributed to one or more of some five different factors. Several case summaries with chest films and other pertinent

data typical of each cause of failure are presented. Practical recommendations on the indications for resection and collapse are evolved from this analysis.

The Role of Hypothermia in Cardiac Surgery

CHARLES B. BAILEY, BRIAN A. COOKSON, DANIEL F. DOWNING, HOUCK E. BOLTON, WILLIAM LIKOFF, and WILLIAM L. JAMISON, Hahnemann Medical College and Hospital, Philadelphia.

This exhibit reviews the application of hypothermia specifically in cardiac surgery up to the time of presentation. It presents the logical contraindications to the use of hypothermia in cardiac surgery and points out its probable field of best applicability. Emphasis is placed on its use in the surgical correction of ventricular septal defects, pulmonic stenosis, tetralogy of Fallot, and congenital transposition of the great arteries. The authors' experiences and results in the treatment of these four conditions are shown in detail.

Multiple Chemotherapy and Bacterial Genetics in Modern Medical Practice

EDWIN J. GRACE, Grace Clinic, Brooklyn, and VERNON BRYSON, Biological Laboratory, Cold Spring Harbor, N. Y.

In order to take full advantage of the opportunities now available in the therapy of many infectious diseases, it is necessary for the medical profession to merge bacterial genetics with clinical bacteriology. The emergence of potentially dangerous resistant strains of pathogens may often be retarded if the principles of multiple chemotherapy as determined by genetic and bacteriological research are observed by the clinician. Clinical evidence is presented showing the improvement of patients with suppurative disease of the lung, including pulmonary tuberculosis, following the application of findings noted in experimental studies. The experimental evidence includes the result of multiple chemotherapy in the treatment of pneumonia induced in 500 inbred mice, and a genetic analysis of bacterial resistance and cross resistance as related to the properties of different antibiotics and drugs used singly and in combination.

Recent Advances in Treatment of Lung Cancer

WILLIAM L. WATSON, JOHN L. POOL, WILLIAM G. CAHAN, RAYMOND K. J. LUOMANEN, and ALEXANDER J. CONTE, New York.

The exhibit consists of three parts showing (*a*) the diagnostic methods employed, including mass screening by chest x-ray, cytologic and bronchoscopic techniques; (*b*) the treatment of primary cancer of the lung, metastatic cancer to the lung, and tracheal cancer; and (*c*) operative results.

Effect of Streptomycin on the Bronchocavitary Junction and Its Relation to Cavity Healing

OSCAR AUERBACH and MAURICE J. SMALL, Veterans Administration Hospital, East Orange, N. J., and HARRY L. KATZ, Veterans Administration Hospital, Brooklyn.

Roentgenograms before and after courses of streptomycin and microscopic studies of specimens resected in such cases demonstrate a significant degree of epithelialization of the draining bronchus, bronchocavitary junction, and adjacent cavity wall. This material is compared with resected specimens from patients who had not received streptomycin. Since epithelialized surfaces do not unite and heal, the therapeutic implications of this phenomenon are pointed out.

Prolonged Relief of Thoracic Pain

W. RALPH DEATON JR., Greensboro, and H. H. BRADSHAW, Bowman Gray Medical School, Winston Salem, N. C.

Recently a new long-lasting local anesthetic solution (Efocaine) has been marketed. It is a non-oily solution, which achieves its effect through precipitation of a crystalline depot of the active ingredients. Highly satisfactory reports of its use in various branches of surgery suggested that it might be beneficial in controlling pain related to thoracic surgery. Its use in a large number of cases has shown it to be highly satisfactory in reducing postoperative and other chest pain. The lack of pain enables the patient to cough easier and so tends to lower the incidence of atelectasis. Typical case reports, with slides, are used to demonstrate the value of the solution in various chest conditions.

Pneumoconiosis in Soft Coal Workers—Tissue and Roentgenographic Changes

LOUIS L. FRIEDMAN, Birmingham, Ala.

This exhibit deals with the tissue and roentgenographic changes observed in Alabama soft coal workers. Whole lung and microscopic sections are presented to demonstrate the basic pathology of soft coal workers' pneumoconiosis and to correlate the observed roentgenographic and actual tissue changes. These changes are further correlated with pulmonary function studies. To emphasize the importance of variation in host response following similar exposure to coal dust, a series of brothers and nonrelated persons is presented to demonstrate this point. This interesting feature is illustrated with roentgenograms and tissue obtained at necropsy examination. The progressive nature of the disease is demonstrated roentgenographically and pathologically.

Stenotic Valvular Heart Disease—Results of Surgery

ROBERT P. GLOVER, THOMAS J. E. O'NEILL, O. HENRY JANTON, LOUIS A. SOLOFF, and C. ROBERT E. WELLS, Hahnemann, Episcopal, Presbyterian, and Lankenau Hospitals and St. Christopher's Hospital for Children, Philadelphia.

During the past five years, intracardiac surgery has passed from the exploratory, experimental stage into an universally accepted, standardized specialty with wide application. Each of the heart valves when in a stage of stenosis can technically be opened. During this period of time the authors have studied and operated on over 500 cases. It has now become clear that more than 75% of patients have shown definite improvement, in many instances of great magnitude, and the over-all operative mortality has been less than 7%. This exhibit depicts the pathology of the lesions under question and the technique of the operative approach in brief but emphasizes the results of such surgery together with their preoperative evaluation and postoperative management.

An Over-All View of the Results of Isoniazid and Iproniazid at Sea View Hospital from June, 1950, to May 1, 1953

GEORGE G. ORNSTEIN, EDWARD H. ROBITZEK, DAVID REISNER, IRVING J. SELIKOFF, SAMUEL E. KAMEN, VLADIMIR ALTMANN, and IRVING F. KLEIN, Sea View Hospital, New York.

The experiments of toxicology and treatment, death, cures, series of x-rays during the treatment, and photographs of pathological specimens of the lungs that were excised during therapy are exhibited. A study of earlier cases with the use of the isoniazids is also shown.

Section on Experimental Medicine and Therapeutics

The representative to the Scientific Exhibit from the Section on Experimental Medicine and Therapeutics is JOSEPH F. ROSS, Boston.

The Blood Platelets and Idiopathic Thrombocytopenic Purpura

WILLIAM DAMESHEK and MARIO STEFANINI, New England Center Hospital, Boston.

Thrombocytopenic purpura probably includes a number of diverse conditions, ranging from thrombocytopathic forms to acute, self-limited conditions and chronic cases. The impor-

tance of immunologic and allergic mechanisms is becoming apparent. The authors' studies have included direct phase microscopic observations of megakaryocytes and platelet survival time, platelet antibodies, platelet blood groups, development of platelet antibodies with repeated transfusions, the various methods for administering platelet transfusions using siliconized apparatus, plastic bags, etc., and the relationship of thrombocytopenia to vascular purpura. In therapy, the relative values of platelet transfusions, ACTH and cortisone, and splenectomy are analyzed. Different methods for handling the different forms of thrombocytopenia are stressed.

Synthetic Organ Mechanisms

ARTHUR E. MACNEILL, University of Buffalo School of Medicine, Buffalo, N. Y.

A basic working theory of synthetic organ mechanism design is presented. Three examples of apparatus show the current progress in applying this working theory to practical clinical and investigative problems: (1) a blood pumping mechanism of very simple design, suitable for adaptation to a wide variety of medical and surgical problems; (2) a blood dialyzer of great compactness and adaptability, having one square meter of dialysis membrane surface in a box only 2½ by 1½ by 24 inches in outside dimensions; (3) a proposed design for a synthetic urinary bladder control mechanism (tidal drainage) of great versatility.

Serum Complement Levels in Glomerulonephritis and the Nephrotic Syndrome

KURT LANGE, LAWRENCE B. SLOBODY, FRANK GRAIG, RUTH STRANG and JACOB OBERMAN, New York Medical College, New York.

Acute glomerulonephritis is induced by an antigen-antibody reaction which is complement-binding in experimental animals and in man. Significant lowering of serum complement levels can be demonstrated in all cases of active glomerulonephritis and in the nephrotic syndrome during the edematous phase. In the nephrotic syndrome, 24 to 48 hours before diuresis, occurring spontaneously or induced by ACTH, cortisone or HN_2, serum complement rises to or toward normal. ACTH, cortisone and HN_2 depress antibody formation and thereby interfere with the antigen-antibody reaction when sufficiently large doses are given. Following diuresis, high doses of ACTH or cortisone given in several interrupted courses may cause long-lasting clinical remissions. Serum complement levels are normal in pyelonephritis, Kimmelstiel-Wilson's disease, toxemia of pregnancy, Wilm's tumor, sulfacrystaluria. Low complement levels are not due to anticomplementary substances nor to loss of complement in the urine with the proteins. Serum complement levels have correlated well with renal morphology in autopsied cases. Since serum complement titers reflect activity in glomerulonephritis and the nephrotic syndrome, complement determinations are important for diagnosis, therapy and prognosis.

Phenylbutazone-Butazolidin®—A Non-Steroidal Agent for the Treatment of Rheumatic Diseases

BERNARD B. BRODIE, National Heart Institute, Bethesda, Md., and EDWARD W. LOWMAN, JOHN J. BURNS, THEODORE CHENKIN, MURRAY WEINER, and J. MURRAY STEELE, New York University, New York.

The exhibit deals with the following aspects of butazolidin: (1) therapeutic effects observed in a number of musculoskeletal disorders including rheumatoid arthritis, degenerative joint diseases (osteoarthritis) ankylosing spondylitis, gout, rheumatic fever, and peritendinitis; (2) observations on absorption, excretion, tissue distribution, and biotransformation; (3) application of this information in the development of rational dosage regimens; (4) a comparison with cortisone, of its anti-inflammatory activity, its effect on electrolyte and water balance, on ketosteroid excretion, and on eosinophil levels, and (5) observations of its toxic manifestations.

The Role of the Plethysmogram in the Management of Peripheral Vascular Disease

TRAVIS WINSOR, J. HOWARD PAYNE, WILBUR A. SELLE, and GRAYCE FLEMING, the Cardiovascular Foundation of the Hospital of the Good Samaritan, University of Southern California and the University of California at Los Angeles, Los Angeles.

The exhibit is based on plethysmographic studies of 1,000 patients with arteriosclerosis obliterans and thromboangiitis obliterans. An electronic digital pneumoplethysmograph for clinical use is demonstrated. This instrument provides information relative to the peripheral circulation which cannot be obtained by any other type of examination such as measurements of peripheral resistance, vasomotor activity, blood flow, and neurogenic and myogenic factors controlling vasomotor tone. The relation of plethysmographic measurements to medical and surgical treatment is presented in predicting the outcome of lumbar sympathectomy and in determining the most effective type of drugs or therapeutic procedure in an individual case.

Cortisone in Acute Myocardial Infarction

ARAN S. JOHNSON, ROBERT A. GERISCH, SCHAYEL SCHEINBERG, and HARRY SALTZSTEIN, Harper Hospital, Detroit.

The exhibit consists of pictures of histological sections and gross specimens of hearts removed from dogs in which an experimental myocardial infarct had been produced. Some animals were treated with cortisone while others were used as controls. The coronary vascular bed of all the hearts is demonstrated by x-ray injection technique. The exhibit reveals an increase in vascularity of the myocardium, a much smaller infarct, and a decrease in mortality rate in the animals treated with cortisone. A preliminary clinical report will be described.

Erythrocin

L. E. JOSSELYN, GEORGE H. BERRYMAN, and JOHN C. SYLVESTER, Abbott Laboratories, North Chicago, Ill.

The chemistry, pharmacology, bacteriology, and clinical phases of erythrocin (erythromycin, Abbott) are described and illustrated by means of graphs, charts, photographs, and drawings. The antibacterial spectrum, including range of inhibitory concentrations, is presented along with illustrations of the development of resistance and possibly antagonism and synergism. Summaries of clinical reports and tabulations of types of cases are presented to cover the range of usefulness of this antibiotic.

The Effect of Three New Drugs on Circulation

THOMAS C. FLEMING, LOWELL O. RANDALL, and JOSEPH SELITTO, Hoffmann-LaRoche, Inc., Nutley, N. J.

The chemistry of the three drugs is presented: (*a*) a new thiophanium derivative (Arfonad); (*b*) a new dibenzazepine derivative (Ilidar); (*c*) betapyridyl carbinol (Roniacol). A graphic outline with schematic models describes the physiological control of the circulation. The pharmacology and clinical application of these three compounds are described: (*a*) Arfonad, a ganglionic blocking, vasodepressor drug; (*b*) Ilidar, an adrenolytic agent; (*c*) Roniacol, a vasodilator drug belonging to the nicotinic acid series.

Intravenous Trypsin—Experimental Data and Clinical Applications

IRVING INNERFIELD, ALFRED SCHWARZ, and ALFRED ANGRIST, Jewish Memorial Hospital and New York Medical College, New York.

A method has been devised and perfected for safely administering crystalline trypsin intravenously. To date more than 7,000 infusions have been given without appreciable side-effects. The indications for intravenous trypsin therapy include

conditions characterized by the presence of thrombi and/or an acute inflammatory reaction. The technique of intravenous trypsin as an office procedure is demonstrated.

The Physiological and Therapeutic Effects Produced by Inhibition of the Enzyme Carbonic Anhydrase

B. W. Carey and S. M. Hardy, Lederle Laboratories Division, American Cyanamid Company, New York.

Since the finding that sulfanilamide was an inhibitor of the enzyme carbonic anhydrase and that this inhibition particularly affected the formation of urine, new inhibitors have been discovered and further exploration of this mechanism has been made. The functions of carbonic anhydrase in the kidneys, stomach, and pancreas are presented. One of the new inhibitors, 2-acetylamin-1,3,4-thiadiazole-5-sulfonamide (#6063), is several hundred times more powerful as a carbonic anhydrase inhibitor than sulfanilamide and far less toxic. Thus, it is a highly suitable agent, both for study of the physiologic mechanisms involved and for potential therapeutic use. The results of inhibition of renal carbonic anhydrase by #6063 are the excretion of Na/, K/, HCO_3 and water. The renal tubular adjustment to this effect has been studied. The diuretic effect has proved useful in congestive heart disease and other conditions of sodium retention. Pharmacologic study of #6063 indicates that it is a safe and satisfactory compound for human use.

The Use of Antibiotics in the Prevention of Bacteremia Following Dental Extraction

Robert S. Preessman, I. B. Bender, and S. G. Tashman, Albert Einstein Medical Center, Philadelphia.

Many cases of subacute bacterial endocarditis are apparently due to the bacteremia resulting from dental manipulation. The incidence and methods of prevention of postextraction bacteremia are shown. The percentage of positive blood cultures following extraction of teeth in a series of 80 control patients is compared with another series after the administration of oral antibiotic troches and after the parenteral administration of aureomycin, chloramphenicol, penicillin alone, and penicillin in combination with streptomycin. Comparisons are made as to the effectiveness of, and the indications for, each route of administration, with special reference to use prior to dental extractions in rheumatic and congenital heart disease as a means of obtaining a marked reduction in the incidence of subacute bacterial endocarditis.

Studies on Heparin Activity

William S. Collens, Morris M. Banowitch, Norman Weissman, and William Regelson, Maimonides Hospital, Brooklyn.

The exhibit shows comparative studies of anticoagulant properties of heparins of different manufacturing sources, the results of the investigations of various modes of administration, including parenteral and peroral routes, observations on the effects of depolymerized heparin, and chemical determinations of heparin in blood and urine. The application of these observations to the treatmcnt of arteriosclerotic disease and thromboembolic disease is presented.

Clinical Application of Studies with Radiosodium and Potassium

George T. Harrell and Jerry K. Aikawa, Bowman-Gray School of Medicine, Winston-Salem, N. C.

The isotope dilution technique gives information on the total body content of an ion. The principles of the methods are described, and the equipment is demonstrated. The data contrast with the concentration in blood or urine as determined by flame photometry. The relationships between the intake of ions in the diet, absorption from the intestine, distribution through the vascular tree to the interstitial spaces and the cells of the body, and the cycle of excretion and reabsorption in the kidney are illustrated. Examples of disturbances through mechanical interruption of these cycles are given. Examples of pathological defects in membranes with alterations in redistribution within the body, utilization, excretion, and circulation are illustrated by data on specific diseases. Application to the therapy of human disease with the site of action of drugs will be discussed.

A New Technique for the Use of Radioactive Isotopes in the Diagnosis of Liver Diseases

Eric T. Yuhl, Lloyd A. Stirretti, and Raymond L. Libby, Veterans Administration Center, Los Angeles.

The exhibit presents the entire history of the procedure, including the early experimental work, the steps in the procedure, Kodachrome pictures of actual experiments with concomitant survey on the patient, and several graphs of the results.

Management of Advanced Mammary Carcinoma

Norman E. Treves, George C. Escher, Florence C. H. Chu, and Helen Q. Woodard, Memorial Cancer Center, New York.

A systematic review is presented detailing the magnitude of the problem and the rationale for treatment. Effective therapeutic modalities, the criteria for their employment, and the response to be expected are enumerated. Complications and side-effects and their management and control are discussed. A preliminary report on the response to controlled, simultaneous therapy with both hormones and irradiation is included.

Directions in Cancer Research

Charles S. Cameron and Brewster S. Miller, American Cancer Society, Inc., New York.

The exhibit depicts the morphological differences between the normal and abnormal cancer cell and indicates the role of many scientific disciplines, genetics, viruses, hormones, metabolism, nutrition, isotopes, physics, chemotherapy, etc., in their effects on these two types of cells. Elaboration of the role of many of these disciplines is emphasized particularly in the utilization of many new research tools which have been developed in the last 25 years. The exhibit also includes a breakdown of the society's subsidy of cancer research in this country during the past eight years.

Reduced Ototoxity by Combined Streptomycin—Dihydrostreptomycin Treatment of Tuberculosis

Walter E. Heck, Stanford University School of Medicine, San Francisco.

Graphs, charts, drawings, and photographs illustrate laboratory (animal) and clinical experiments, indicating the vestibular toxicity of streptomycin and the cochlear toxicity of dihydrostreptomycin, and the reduction of these ototoxicities, both in laboratory and clinical experiments, by the combined (fractional) drugs.

The Male Climacterium—A Clinical Study

Thomas H. McGavack, Jonas Weissberg, Sidney Pearson, Jacqueline Chevalley, and Xenophon C. Callas, New York Medical College, Metropolitan Hospital Research Unit, New York.

More than 200 patients believed to have the male climacterium have been critically analyzed both diagnostically and therapeutically. There is no pathognomonic symptom, sign, or laboratory finding by which a diagnosis of the male climacterium can be reached, but there are several patterns into which these manifestations fall. The exclusion of other possible diagnoses and a combination of climacteric symptoms and signs with certain laboratory data make a diagnosis possible.

Final evidence in relation to therapeutic tests with testosterone is presented as well as the results of therapy. From the data presented, it is concluded that the male climacterium exists and responds only to specific treatment.

Isoniazid in Treatment of Skin Tuberculosis, Leprosy, and Miscellaneous Diseases

FRANK E. CORMIA, MAURICE J. COSTELLO, LESLIE P. BARKER,, EDWARD W. WILSON, and CARL T. NELSON, New York.

Charts, photographs, and photomicrographs summarize the use of isoniazid in the treatment of cutaneous tuberculosis, leprosy, sarcoidosis, chronic discoid lupus erythematosus, and miscellaneous conditions. Value in frank skin tuberculosis and lepromatous leprosy is emphasized. Progress under therapy and reactions to isoniazid are presented.

Section on Gastro-Enterology and Proctology

The representatives to the Scientific Exhibit from the Section on Gastro-Enterology and Proctology are WILLIAM H. DEARING JR., Rochester, Minn., and J. P. NESSELROD, Evanston, Ill.

Simplified Duodenal Intubation with New Polyethylene Tube

MILTON J. MATZNER and HAROLD ZAROWITZ, Jewish Hospital of Brooklyn, Brooklyn.

A new type of polyethylene gastroduodenal tube with a specially designed metal bucket is displayed. Charts outline the simplified technique of duodenal intubation which was successful with practically no discomfort in over 90% of the patients intubated. This new polyethylene tube has made duodenal intubation a simple rather than a specialized procedure.

Evaluation of Banthine on the Motility of the Colon—Clinical and Roentgenologic

MICHAEL H. STREICHER, University of Illinois College of Medicine, Chicago.

The exhibit presents the following features: (*a*) clinical and roentgenologic presentation of the effect of Banthine on the motility of the colon; (*b*) comparative studies of the emptying time of the colon in diseases of the colon before and during intake of Banthine; and (*c*) the emptying time of the colon in the normal person.

Rehabilitation of Patients with Ileostomy and Colostomy

ALBERT S. LYONS, BERNARD ROBINSON, GEORGE SCHREIBER, and ROBERT TURELL, Mount Sinai Hospital, New York.

A program is presented for the rehabilitation of patients with ileostomy and colostomy. The exhibit outlines the many-pronged attack on the problem at the Mount Sinai Hospital and especially describes the work of the newly organized intestinal rehabilitation clinic and the ileostomy club. The exhibit illustrates the management which begins preoperatively, extends through the postoperative period, and continues through the years ahead.

New Cytologic Methods for Diagnosing Gastrointestinal Malignancy

CYRUS E. RUBIN, BARBARA W. MASSEY, DAVID D. STONE-CYPHER, RICHARD L. DOBSON, WALTER L. PALMER, and JOSEPH B. KIRSNER, Department of Medicine, University of Chicago, Chicago.

The exhibit shows the collection methods and instruments developed in this laboratory, illuminated color and phase photomicrographs of the different types of cells, and the accuracy of data of these new methods. They will be compared with x-ray and endoscopy. The practical, clinical value of this technique are stressed.

Granulomatous Ileojejunitis

RICHARD H. MARSHAK, BERNARD S. WOLF, A. I. FRIEDMAN, and BURRILL B. CROHN, Mount Sinai Hospital, New York.

Fifty cases of granulomatous ileojejunitis are presented with pertinent clinical and pathologic data and detailed roentgen descriptions. The cases have been classified into nonstenotic and stenotic forms to facilitate roentgen study. In the nonstenotic stage, abnormal mucous membrane pattern evidenced by cobble-stoning and ulcerations of varying degree, rigidity and separation of loops of bowel, are the early roentgen features encountered. When ulceration is diffuse, the appearance resembles that seen in ulcerative colitis. The stenotic stage shows many of the roentgen features seen in terminal ileitis. These include the string sign, skip areas of dilated bowel, rigidity, and separation of loops of small intestine. A reticulated mucous membrane pattern is most frequent. Pathological correlation with the roentgen findings is emphasized.

Electrophoretic and Cholesterol Studies in Peptic Ulcer

HENRY A. RAFSKY, CHARLES I. KRIEGER, AUSTIN P. BOLEMAN JR., and JEANNE C. RAFSKY, Lenox Hill Hospital, New York.

Electrophoretic and liver function studies were performed in a group of peptic ulcer patients. Electrophoretic changes in the protein distribution, especially of the different globulins and in the A/G ratio were found in most of the patients. The only significant finding in the liver function tests was that of an increased percentage of the free cholesterol and the lowering of the cholesteral esters in a majority of the cases. The significance of the electrophoretic changes as well as the disturbance in the cholesterol partition in these patients will be discussed. Whether age, duration of disease, complications, and diet are of importance in producing these changes, are secondary to ulcer disease, or play a role in the pathogenesis of peptic ulcer will also be discussed. Case reports will be described and illustrated.

The Rational Use of Antibiotics in Treatment of Biliary Tract Disease

JERRY ZASLOW, Albert Einstein Medical Center, Philadelphia.

The excretion and concentration of antibiotics and sulfonamides into the biliary tract depends on the presence of a liver which is able to excrete the drug, the absence of common duct obstruction, and the patency of the cystic duct. When liver function is impaired and/or common duct obstruction is present, there is impairment of excretion and concentration of the drug into the extrahepatic biliary ducts. When the cystic duct is obstructed, even though the drug is excreted from the liver, it does not appear in the gallbladder bile. These results, obtained from experimental investigation, were correlated with clinical results in patients in whom various drugs were used in cases of acute cholecystitis, common duct obstruction, and primary hepatic disease. The exhibit shows what may be expected of these drugs in the treatment of biliary tract disease.

Newer Concepts Concerning the Common Bile Ducts

JULIAN A. STERLING and RALPH GOLDSMITH, Philadelphia.

The choledochus is a viaduct for bile. Communicating with it is a reservoir or a surge chamber represented by the gallbladder. The papilla at the termination of the common bile duct acts as a nozzle for the jet stream of bile in accordance with principles of hydraulics. The structure of the papilla serves to increase the speed of the transmitted stream. Further consideration of the sphincter mechanism indicates that interductal reflux can exist only when a common channel for bile and pancreatic ducts is longer than two-thirds of the length of the papilla. This is present anatomically and on cholangiogram in 10 to 20% of cases but may not exist in most patients with pancreatitis (clinical and cadaver studies). The terminations for

the common bile and pancreatic ducts are evaluated in pancreatitis, choledocholithiasis, carcinoma of the papilla, diverticula of the common bile duct, stenosis of the papilla, and in patients with biliary tract dyskinesia.

New Techniques for Proctoscopy and Minor Rectal Surgery

PAUL C. BLAISDELL, Pasadena, Calif.

A new full-view proctoscope is shown, far easier of introduction than conventional instruments and with unique and superior lighting system. The exhibit demonstrates a new position for proctoscopic examination much easier on the patient and requiring no special table. A new technique and instrument for anal delivery of rectal tumors is included, together with a simplified technique of hemorrhoidectomy with Blaisdell ring retractor, a new head-light for anoscopic examinations with precision optical system and superb, even lighting, and a technique for repair of incontinent sphincter.

The Significance of Rectal Bleeding with Diverticulosis and Diverticulitis

SAUL SCHAPIRO, Jewish Hospital of Brooklyn, Brooklyn.

Bleeding from the rectum should not be taken for granted as a symptom of diverticulosis and diverticulitis, since bleeding is not an established diagnostic sign with these conditions. The exhibit shows the actual low occurrence of bleeding from diverticulosis and diverticulitis. Associated bleeding must be reinvestigated frequently by repeated x-ray and proctologic studies. Coexisting conditions, such as polyps, malignancies, colitis and anorectal diseases, must be eliminated.

Rectal and Colon Polyps

NEIL W. SWINTON, the Lahey Clinic, Boston.

This exhibit illustrates the methods of detection and the frequency and significance of rectal and colon polyps. Particular emphasis is given to clinical and histological differential diagnosis of malignancy and to treatment and follow-up studies.

Chloromycetin Therapy in Chronic Ulcerative Colitis

Z. T. BERCOVITZ, New York.

The exhibit shows the results of four years' follow-up and continued observations in a group of 71 patients treated with chloromycetin for chronic ulcerative colitis. Many of these patients have been under chloromycetin therapy during the entire four year observation period. The results of 350 blood cell counts made during this time are shown in relationship to the prolonged chloromycetin therapy and the clinical course of the patients. In a total of 29 patients receiving intravenous chloromycetin therapy in dosages of 1 to 3 gm. daily for varying periods of time repeated blood counts were also made. The results are tabulated in relationship to chloromycetin dosages and the clinical course of the patients.

Primary Resection of the Colon in Ulcerative Colitis

CHARLES B. RIPSTEIN, S. R. WAINE, and GEORGE W. FLINT, Maimonides Hospital of Brooklyn, Brooklyn.

The exhibit demonstrates the rationale of colonic resection in ulcerative colitis. The type of pathology found, the complications, and the results of treatment of 120 cases are presented. Indications for operation are outlined, and the reasons for failure with less radical procedures are discussed.

Nonoperative Treatment of the Painful External Hemorrhoid

JOSEPH M. GROSS, Beth-El Hospital, Brooklyn.

Not all external hemorrhoids require cutting for relief of pain or control of bleeding. Kodachrome enlargements and diagrams show the various types and classifications of external hemorrhoids. The indications for, and contraindications against, conservative treatment and a new method of nonoperative treatment will be demonstrated.

Acute Upper Gastrointestinal Hemorrhage—Diagnosis and Management

IRVIN SUSSMAN, DONALD BERKOWITZ, and CHARLES M. THOMPSON, Hahnemann Medical College and Hospital, Philadelphia.

The exhibit shows a statistical analysis of 450 cases of acute upper gastrointestinal hemorrhage, including a review of historical data, physical findings, x-ray studies, mortality in various age groups, and previous hemorrhages. On the basis of these findings a projected program is suggested for the diagnosis and management, with an attempt to place proper emphasis on the relative roles of medical and surgical aspects.

An Experiment in Treatment of Peptic Ulcer with Unrestricted Diet

E. A. MARSHALL, Huron Road Hospital, East Cleveland, Ohio.

One thousand patients with x-ray evidence of ulcer have been given sufficient antacids, absorbents, and sedation to permit a full unrestricted diet without symptoms within three days. This schedule was carried out for just over four months, when all therapy was stopped and recurrence awaited, still with unrestricted diet. Results in hemorrhagic and obstructed ulcer were unusual. Follow-up showed just under 50% have not had recurrence in over three years and that just over 50% have recurrence in an average of 22 months. It was felt there was some evidence that a majority of ulcers were healed on therapy. There were 25 gastrectomies in this group.

Section on General Practice

The representative to the Scientific Exhibit from the Section on General Practice is CHARLES E. MCARTHUR, Olympia, Wash.

The Prevention of Rheumatic Fever

MALCOLM J. FORD, U. S. Public Health Service, Division of Chronic Disease and Tuberculosis, JAMES WATT, U. S. Public Health Service, National Heart Institute, Washington, D. C., and JOHN P. HUBBARD, Council on Rheumatic Fever and Congenital Heart Disease, and BURTIS B. BREESE, Committee on Prevention of Rheumatic Fever, American Heart Association, New York.

The exhibit illustrates the recommendations of the Council on Rheumatic Fever and Congenital Heart Disease of the American Heart Association for the prevention of rheumatic fever through (1) recognition and treatment of streptococcic infections in the general population and (2) prophylactic use of chemotherapeutic agents for the prevention of recurrences of rheumatic fever on rheumatic subjects. Diagnostic criteria, treatment schedules, and therapeutic cautions are presented, together with illustrative case histories.

Caffeine and Ergotamine in Heat Exhaustion

JOOST A. M. MEERLOO, New York.

This exhibit will show symptoms and mechanisms of heat exhaustion, including (*a*) neurotic adjustment problems, (*b*) mild heat exhaustion or initial heat exhaustion, and (*c*) heat stroke. Methods of therapy and effects of specific therapy are also presented.

The Management of Cancer Pain

JOHN BONICA and PHILLIP H. BACKUP, Tacoma General Hospital, Tacoma, Wash.

This exhibit deals with the various phases of managing cancer pain in general practice. The most important therapeutic aids available to the general practitioner are presented. Special emphasis is placed on the proper use of general analgesics, including non-narcotic agents, narcotics, cobra venom, and

intravenous alcohol. In addition, methods of chemically interrupting pain pathways are presented in detail, illustrated with case reports. The role of radiation and endocrine therapy and the various neurosurgical operations for interrupting pain pathways are presented.

Management of the Patient with Ureteral Calculus

GEORGE H. JONES, WALTER I. BUCHERT, and HAROLD E. BROWN, Geisinger Memorial Hospital, Danville, Pa.

This exhibit shows photographs of x-rays, tests, calculi, and dietary suggestions for the diagnosis, medical management, surgical treatment, and follow-up care for the patient with an ureteral calculus. The management of such a patient by the general practitioner is stressed.

Vascular Headache

HAROLD G. WOLFF and M. MARTIN TUNIS, Cornell University Medical College-New York Hospital, New York.

The exhibit covers (1) classification of headache, intracranial and extracranial, based on the physiologic mechanisms involved; (2) differential diagnosis of headache from sources outside the skull; (3) the pathophysiology of vascular headache, particularly the migraine type, including (*a*) prodromal phase, (*b*) phase of headache, (*c*) secondary muscle contraction headache, (*d*) slit-lamp photomicrographs, (*e*) complications of extracranial vascular accident; (4) muscle contraction headache, vascular ischemia; (5) treatment of vascular headache showing vasoconstrictor agents, vasodilator agents, and general measures; (6) treatment of muscle contraction headache; and (7) summary of patient management to reduce the frequency or severity of subsequent headache.

Observations on the Use of the Sulfonamides in a General Hospital

ELLARD M. YOW, Baylor University College of Medicine, Houston, Texas.

Tables and graphs are presented summarizing the effects of the administration of sulfisoxazole in a large group of patients for various prophylactic and therapeutic uses. Since the study is made in a large city charity hospital where the turnover of patients is rapid and the careful regulation of fluid intake and output is difficult, the evaluation of toxic effects is particularly important. A few outpatients were also included in the study. It is significant that there were no cases of anuria following the use of sulfisoxazole, whereas there were from two to six cases a year when other sulfonamides were used.

BCG Vaccination Against Tuberculosis

SOL ROY ROSENTHAL, Research Foundation, University of Illinois College of Medicine, and Chicago Municipal Tuberculosis Sanitarium, Chicago.

By a new processing method of growing and freeze-drying, a stable vaccine has been developed which loses little of its viability after 18 months of storage. The results in animals and humans are presented comparing this newly processed vaccine and the standard fresh vaccine. Controlled morbidity and mortality studies followed up to 14 years in various age groups are depicted. Corroborative evidence from various users throughout the United States who were supplied vaccine from this laboratory is shown. Vaccination methods, reactions, and results will be demonstrated.

Dermatological Manifestations of Internal Diseases

ROBERT F. DICKEY, THOMAS K. HEPLER, and JAMES A. COLLINS JR., Geisinger Memorial Hospital and the Foss Clinic, Danville, Pa.

This exhibit demonstrates the importance of recognizing dermatological lesions as an aid in diagnosing certain internal diseases. It consists of colored photographs of representative skin lesions, colored histopathological photographs, summary of internal manifestations, photographs of x-rays, and gross pathological specimens. Dermatological entities include such diseases as xanthoma tuberosum, acute disseminate lupus erythematosus, sarcoidosis, amyloidosis, syphilis, tuberculosis, adenoma sebaceum, leukemia cutis, juxta-articular nodes, temporal arteritis, and dermatitis medicamentosa. A pamphlet summarizing the entities demonstrated will be available.

The Doctor's Bag

EDWIN MATLIN, Mt. Holly Springs, Pa.

This exhibit, based on a survey of 400 family doctors, demonstrates the instruments and drugs deemed essential to a doctor's bag. If carried it will enable the doctor to handle virtually every emergency. It will serve as a basic list for the newcomer to practice, and it is compiled by general practitioners.

Treatment of Symptoms—A Study of Relief of Pain in Psychosomatic Syndromes

M. L. BANKOFF and B. M. KOHRMAN, Clinic Associates, Michigan City, Ind.

A report is made of controlled studies on 140 patients suffering from various functional disorders. Findings indicate that the integrative action of a preparation of belladonna alkaloids, ergotamine tartrate, and phenobarbital is well suited for symptomatic treatment of patients with psychosomatic complaints, offering them relaxation of internal tension while giving them tangible evidence of the physician's interest. It is therefore an excellent adjunct to office psychotherapy.

Thermal Response to Entering and Leaving Hot Environments

R. W. KEETON, F. K. HICK, M. K. FAHNESTOCK, N. GLICKMAN, T. INOUYE, and L. BERNSTEIN, University of Illinois College of Medicine and University of Illinois College of Engineering, Chicago and Urbana, Ill.

Two air-conditioned spaces, one kept at a comfortable temperature and humidity and the second at hot conditions are shown. A young woman dressed in summer clothing will be moved from one space to the other. Temperatures from several points on the skin and from the rectum will be automatically recorded. Abnormalities of body temperature regulation have been studied and the temperature adjustments are included for hyper- and hypothyroids and normal and obese subjects. Postural hypotension after exposure to heat are shown as well as dangers of heat retention fevers in the sick. An engineer will demonstrate devices used in measuring temperature, humidity and air motion, including radiometer, anemometer and globe thermometer.

Hazards of Mercurial Diuretics

JACOB J. SILVERMAN and HAROLD B. TRACHTENBERG, Staten Island Hospital, Staten Island and New York.

An extraordinarily large number of patients are now treated successfully with mercurial diuretics; nevertheless, undesirable and toxic effects, and even fatalities, occur with sufficient frequency to warrant a note of caution. The exhibit describes the toxic effects and dangers that may result from mercurial diuretics. Depletion, sensitivity, cardiac effects, and other reactions are emphasized.

Value of Intravenous Sodium Amytal in Psychosomatic Disorders: Neglect of Its Use in General Practice

ZALE A. YANOF, Toledo, Ohio.

Narcoanalysis and narcotherapy with intravenous sodium amytal is a valuable procedure in psychosomatic medicine but is rarely used by general practitioners. This exhibit demon-

strates that this method is ideal for use by the general practitioner for psychosomatic diagnosis and therapy. The author, with 10,020 injections in 1,226 patients, has successfully used sodium amytal in his practice of internal medicine. The method of administration is described. The drug is very safe, nonhabituative and nonaddictive, and there are practically no contraindications.

Long-Term Antibiotic Therapy in Chronic Bronchitis and Infectious Asthma

WALTER FINKE, Chest Clinic, Genessee Hospital, Rochester, N. Y.

The exhibit depicts the rationale of planned, rather than episodic, antibiotic therapy in chronic bronchitis and infectious asthma. The value of various antibiotics for prolonged treatment is summarized. A simplified aerosol method for home treatment, using a bicycle pump and self-made air reservoir, is demonstrated. The results of long-term antibiotic therapy in 200 patients, including a controlled study of children, are presented. It was found that even hopeless cases of chronic bronchitis and infectious asthma with advanced bronchiectasis and emphysema may improve considerably. More lasting improvement, and even cure, can be achieved in the early stages of these respiratory ailments.

Section on Internal Medicine

The representative to the Scientific Exhibit from the Section on Internal Medicine is WESLEY W. SPINK, Minneapolis.

Parenteral Use of Digitoxin

VICTOR STRAUSS, DAVID L. SIMON, ARNOLD IGLAUER, and JOHNSON MCGUIRE, Cincinnati General Hospital, Cincinnati.

Information is given concerning the effects of parenteral digitoxin in contrast to the oral form of the drug by means of charts, tables, photographs, and x-ray films. The entire plan is to provide the general practitioner with means of deciding when to use parenteral and oral digitoxin therapy.

Insulin Reactions

ROBERT K. MADDOCK and LEO P. KRALL, Norfolk, Va.

The exhibit demonstrates the physiology of insulin reactions, showing the difference in the mechanism of slow and rapid acting insulins, illustrating the main types, and giving pertinent case histories. It particularly points up the frequently not recognized bizarre reactions caused by the long acting insulins. There is a definite attempt to correlate graphic diagrams of physiological cause with effect as manifested by case histories.

Oral Penicillin

WILLIAM P. BOGER, GILBERT M. BAYNE, SALVATORE C. CARFAGNO, and JULINA GYLFE, Norristown State Hospital, Norristown, Pa.

A complete story of oral penicillin is presented, and the exhibit endeavors to justify reliance on oral penicillin for the therapy of the majority of penicillin treatable infections, excluding fulminating diseases requiring hospitalization. The available oral dosage forms of penicillin are evaluated in terms of their ability to produce and maintain penicillin plasma concentrations. Oral penicillin is compared to intramuscular injection of (*a*) water soluble potassium penicillin G and (*b*) repository procaine penicillin. The therapeutic results of applying oral penicillin to the therapy of pneumococcic lobar pneumonia are presented and are correlated with penicillin plasma concentrations. The influences of the solubility of penicillin salts, food, and gastric secretions on the absorption of penicillin from the gastrointestinal tract are demonstrated.

Diabetes Mellitus: Present Aims and Plans

HOWARD F. ROOT, ELLIOTT P. JOSLIN, PRISCILLA WHITE, ALEXANDER MARBLE, and ALLEN J. JOSLIN, Joslin Clinic, Boston.

The exhibit presents data regarding prolongation of life derived from the follow-up of patients; causes of death in 12,000 cases; prevention and treatment of toxemia in pregnant diabetics; the classification of pregnant diabetics for decision as to hormonal therapy, mode and dates of delivery; treatment of coma; prevention of degenerative sequellae in eyes, arteries and kidneys; and plans for the teaching clinic for diabetics.

Vascular Headaches

ARNOLD P. FRIEDMAN and THEODORE J. C. VON STORCH, Montefiore Hospital, Bronx, N. Y.

This exhibit is devoted to vascular headaches, showing the data derived from the study of 1,500 patients. The mechanism of vascular headaches, diagnostic features, differential diagnosis, and therapy of acute attacks as well as prophylactic treatment are considered.

Vascular Complications of Diabetes

DONALD S. SEARLE, TUCKAHOE, N. Y., and FRANK N. ALLAN, Boston, American Diabetes Association, Inc., New York.

A sketch of a human being indicates the location of various vascular complications of diabetes. Colored photographs and roentgenograms show both the normal and pathological conditions found in vascular complications of the eyes (retinitis and retinitis proliferans), heart, veins, kidneys (Kimmelstiel-Wilson syndrome), and feet (ulcer and gangrene). The possible causative precipitating factors in vascular complications of diabetes are presented, together with the methods of avoiding these vascular complications.

Heparin Therapy for Early Acute Venous Thrombosis and Atherosclerosis of the Great Vessels

SAMUEL FELDMAN and HAROLD NEUHOF, Beth-El Hospital, Brooklyn.

Photographs and drawings illustrate early diagnosis of acute venous thrombosis. The immediate results of therapy by 20% heparin will be statistically set forth, particularly because untoward end-results are now recognized as not uncommon sequelae. Long-term treatment for atherosclerosis of the great vessels has not been reported. The results of 20% heparin administered in 100 mg. daily dosage are tabulated and the method of evaluation indicated.

Clinical Studies on an Intravenous Long-Acting 4-Hydroxy Coumarin

SHEPARD SHAPIRO, New York University College of Medicine, New York, and KARL PAUL LINK, University of Wisconsin, Madison, Wis.

The clinical characteristics of a new hypoprothrombinemia-inducing agent are presented. The drug can be administered intravenously or orally, and has a high predictability of response. The onset of hypoprothrombinemia may occur within a few hours and the consequent prolongation of prothrombin time continues for five to nine days, after a single therapeutic dose. The new drug simplifies the clinical control by lessening the frequency of estimations of prothrombin time, presently required for the available coumarin hypoprothrombinemia producing agents. The dosage is about 1/5th that of bishydroxycoumarin (Dicumarol) and about 1/20th that of ethyl biscoumacetate (Tromexan Ethyl acetate). The compound appears to have a low hemorrhagic index and is suitable for the intermittent dosage method of administration. The hypoprothrombinemia-producing effect is rapidly overcome by administration of vitamin K.

Treatment of Allergic Diseases—Principles Involved and Recent Advances

EMANUEL SCHWARTZ, LOUIS LEVIN, HARRY LEIBOWITZ, JACOB REICHER, JOHN F. KELLY, MILTON WALLMAN, and THEODORE McG. FEINBLATT, College of Medicine, State University of New York, New York, and the Long Island College Hospital, Brooklyn.

In the treatment of the allergic patient the following principles are involved and utilized: (1) heredity; (2) immunologic concepts; (3) histamine formation and liberation; (4) autonomic nervous system imbalances; and (5) homeostasis of the hypothalamus-pituitary-adrenal mechanism. Recent advances in therapy include the treatment of bronchial asthma and other allergic diseases with corticotropin, cortisone, and hydrocortisone as adjuncts to the usual therapeutic measures used in the management of the allergic patient. The exhibit illustrates, by charts, photographs, and drawings, that successful allergic management depends on the sum total of these factors.

Studies on the Control of Diseases of Aging

WILLIAM B. KOUNTZ, PHILIP G. ACKERMANN, TEOFIL KHEIM, LILLI HOFSTATTER, and BETTYE CALDWELL, Washington University School of Medicine, St. Louis.

The exhibit consists of an evaluation of the physiology and chemistry and the body state of older persons. It is a study of the physiological weaknesses of the body and the determination of the control of these weaknesses as far as is known. It indicates some factors in the control of such diseases as arteriosclerosis, arthritis, diabetes, and heart disease as well as the exhausted state associated with age.

Systemic Lupus Erythematosus and the Lupus Erythematosus Cell Phenomenon

M. M. HARGRAVES, Mayo Clinic, Rochester, Minn.

The problem of systemic lupus erythematosus is becoming more prominent each year. Many cases of obscure fever and malaise as well as system diseases are now being diagnosed as lupus erythematosus. The lupus erythematosus cell phenomenon is in part responsible for this change. No longer is lupus erythematosus a dermatologist's problem but has become an important problem of the internist, since dermatologic manifestations are only one manifestation of a systemic disease. This exhibit presents: (1) a schematic presentation of the lupus erythematosus cell formation; (2) a morphological study of the lupus erythematosus cell formation as we conceive it, illustrated by color photomicrographs of actual cells; (3) color transparencies of the two hour blood clot test; (4) a statistical study of 100 consecutive cases in which the patient had a bone marrow aspiration study positive for the lupus erythematosus cell phenomenon.

The Sigmoidoscopic Diagnosis of Systemic Disease

JOSEPH FELSEN, the Bronx Hospital, New York.

The exhibit shows water colors of exact appearances of bowel as seen through a sigmoidoscope during life supplemented by actual paintings in color of operative or necropsy specimens and photomicrographs in color. Diseases described are bacillary dysentery, periarteritis nodosa, subacute bacterial endocarditis, staphylococcic bacteremia, amebiasis, uremia, pharyngogenic hematogenous streptococcic periarteritis, rheumatic intestinal necrosis, plumbism, meningococcic bacteremia, agranulocytosis, leukemia, arteriosclerosis, status lymphaticus, and Hodgkin's disease.

Clinical Features of Gout and Its Therapy

ELMER C. BARTELS, the Lahey Clinic, Boston.

This exhibit is the result of an investigation of over 500 cases of gout. It deals with the clinical manifestation of gout and results of present-day treatment.

The Gallbladder Story

PAUL L. SHALLENBERGER, DONALD CLOUGH, HENRY M. PERRY, and PETER FISHER, Guthrie Clinic, Sayre, Pa.

Gallbladder disease is a common clinical problem. The gallbladder story presents the basic physiological factors and the resulting disease process and complications. Clinical formula, posters, charts, photographs, and case history illustrations develop this theme. Statistical evaluation of a large series of cases, medical and surgical, are presented. Management and end-results, with recommendations for medical and surgical management, are briefly outlined and the results analyzed.

Diseases of the Mitral Valve—Diagnosis and Surgical Treatment

T. J. DRY, R. L. PARKER, J. E. EDWARDS, J. W. KIRKLIN, R. D. PRUITT, G. W. DAUGHERTY, C. H. SCHLEIFLEY, A. J. BRUWER, R. G. TOMPKINS, and A. H. BULBULIAN, Mayo Clinic, Rochester, Minn.

Surgical treatment of mitral stenosis has been accepted as a standard procedure. Introduction of such physiological methods as cardiac catheterization has contributed to more accurate diagnosis and has added greatly to the understanding of the disturbed hemanodynamic in mitral stenosis. This exhibit is a demonstration of (1) normal and abnormal mitral valves, stenotic, insufficient, etc.; (2) physiological data obtained by cardiac catheterization in mitral heart disease; (3) clinical course, diagnostic features, and differential diagnosis of mitral heart disease; and (4) indications for surgery in patients with mitral stenosis and technique of surgical treatment, commissurotomy, together with postoperative results.

Clinical Ballistocardiography—Serial Studies After Myocardial Infarction and Value in Hypertension

HARRY MANDELBAUM and ROBERT A. MANDELBAUM, Jewish Hospital of Brooklyn and Jewish Sanitarium and Hospital for Chronic Diseases, Brooklyn.

After recovery from acute myocardial infarction, 100 patients have been studied at regular intervals for two years by serial ballistocardiograms. Improvement in the ballistocardiogram to a grade 2 pattern or better, or the continuance of a grade 3 or 4 pattern, constitutes a basis for judging functional recovery and prognosis. In the hypertensive patient, the ballistocardiogram is a reliable objective guide in evaluating cardiac function. The value of the exercise test in hypertensives is illustrated. The mechanics of the normal ballistocardiogram will be shown by means of heart diagrams.

Spatial Vectorcardiography

ARTHUR GRISHMAN, RICHARD P. LASSER, and EFRAIM DONOSO, the Mount Sinai Hospital, New York.

Diagrams and models demonstrate and explain the basic principles underlying vectorcardiography. The techniques employed are presented by diagrams and photographs. The relationship of spatial vectorcardiograms to scalar bipolar and unipolar electrocardiograms is discussed in great detail, since it demonstrates best the unitarian principles of the vector concept. Spatial vectorcardiograms are shown of most clinical conditions. The purpose of the exhibit is to analyze in simple terms the vector concept, technique, and application, with emphasis on the significant and important differences to scalar electrocardiography.

The Diagnosis and Treatment of Addison's Disease

S. ZELIG SORKIN and LOUIS J. SOFFER, the Mount Sinai Hospital, New York.

Advances of facilitating early diagnosis and the recent use of depot injections of microcrystalline desoxycorticosterone trimethylacetate have made possible the total ambulatory management of patients not in crisis. The use of this and other

hormone preparations, as well as other measures, in the treatment of crisis and in maintenance management is described and illustrated in the exhibit. The historical development of therapy from Addison's time to the present is depicted, and characteristic clinical features, diagnostic procedures, and results of treatment are presented.

Tape Recording Electrocardiography

WILLIAM L. PROUDFIT, Cleveland Clinic, Cleveland, and J. F. DOBOSY, Avon Lake, Ohio.

A method of recording the electrocardiogram on magnetic tape is presented. The electrocardiogram is recorded on magnetic tape and can be played back through a cathode ray tube for visualization of the record. When desired, a permanent record can be obtained by connecting the apparatus to a clinical electrocardiograph. In this way electrocardiograms can be recorded for a prolonged period. The apparatus is adaptable to the recording of other physiological phenomena. Electrocardiograms are taken continuously during anesthesia, and death is demonstrated.

Hepatic Abnormalities in Congestive Heart Failure

THOMAS J. WHITE, CARROLL M. LEEVY, ANTHONY M. BRUSCA, and ANGELO M. GNASSI, Jersey City Medical Center, Jersey City, N. J.

This exhibit is based on a study of the clinical, biochemical, and histological changes of the liver in congestive heart failure, and shows: (1) incidence of hepatomegaly, jaundice, signs of portal hypertension, biochemical dysfunction and histological alterations of the liver in 73 patients with congestive heart failure; (2) correlation of hepatic abnormalities with type of heart disease, duration of heart failure, degree of heart failure, previous diet, and history of alcoholism; (3) relationship of observed changes to refractoriness to cardiac therapy; and (4) prognosis in patients with heart failure and hepatic dysfunction, together with suggestions for modification of cardiac therapy in these patients.

Serum Beta Lipoprotein Studies in Hypertension and Coronary Artery Disease—A Correlative Study with the Ballistocardiogram and Electrocardiogram

THEODORE D. COHN, ROBERT A. MANDELBAUM, HARRY MANDELBAUM, and I. J. GREENBLATT, Messinger Research Laboratory, Beth-El Hospital, Brooklyn.

Ballistocardiographic tracings were made on a large series of patients before and after exercise and smoking with the Dock ballistocardiographic apparatus. Beta lipoprotein studies were made on their serums. A high degree of correlation was found between the abnormal ballistocardiographic patterns, positive smoke tests, and elevated lipoproteins of the 12-100 classes. The results suggest that the lipoprotein of the 12-20 and 20-100 classes indicates that atherosclerosis and/or atherogenesis is present and that the ballistocardiographic pattern may be an important modality in pinpointing the process to the coronary arteries.

The Cardiac Silhouette

J. SCOTT BUTTERWORTH, CHARLES A. POINDEXTER, and C. E. PETERSON, New York University Post-Graduate Medical School and the American Heart Association, New York.

A simple apparatus is shown which enables the viewer to see normal and pathological heart models in various positions and under direct vision or in silhouette. The models used are produced by the American Heart Association. The purpose of the exhibit is to demonstrate a technique for teaching fluoroscopic diagnosis in heart disease.

Section on Laryngology, Otology and Rhinology

The representative to the Scientific Exhibit from the Section on Laryngology, Otology and Rhinology is FRANCIS W. DAVISON, Danville, Pa.

Bronchography in Infants and Children

CHARLES F. FERGUSON and CARLYLE G. FLAKE, Children's Medical Center, Boston.

The exhibit contains diagrams indicating techniques of tracheograms used in diagnosis of congenital vascular anomalies causing compression trachea and bronchi. Techniques of lipiodol bronchograms are illustrated. Roentgenograms of various congenital vascular anomalies of great vessels, anomalies of tracheobronchial tree, and agenesis of lung are shown as well as instrumentarium used in such techniques.

Tennessee's Teamwork Approach to the Speech and Hearing Defective

W. W. WILKERSON JR., ROBERT M. FOOTE, W. C. GEER, and FREEMAN MCCONNELL, Nashville, Tenn.

The exhibit depicts cooperation between the Tennessee Hearing and Speech Foundation, Tennessee Department of Public Health, Tennessee Department of Education, and the Tennessee School for the Deaf. Phases illlustrated include case-finding, medical treatment, speech and hearing rehabilitation centers, and correction and instructional work in public and special schools.

Bacteriologic Criteria in Rhinologic Diagnosis and Treatment

JOSEPH L. GOLDMAN, the Mount Sinai Hospital and New York University Post-Graduate Medical School, New York.

Transparencies, charts, color photomicrographs, and case reports show the importance of bacteriologic and cytologic examinations of nasal and sinus secretions in rhinologic diagnosis and treatment. The value of such data as major criteria in the differential diagnosis of infectious and noninfectious (vasomotor) disorders is presented. The need to determine the susceptibility of micro-organisms isolated from infections to antibiotics before instituting such therapy is indicated.

Physiological Basis of Rhinoplastic Surgery

IRVING B. GOLDMAN, JOSEPH FREEMAN and SAMUEL BLOOM, Mount Sinai Hospital and Beekman-Downtown Hospital, New York.

Photographs and drawings illustrate the management of the most important steps in accomplishing a rhinoplasty, especially of the deflected caudal end of the septum and the deformed nasal tip. The technique utilizes the principle of the pedicle graft. Neither vestibular skin, cartilage, or mucous membrane is sacrificed in the attainment of the desired physiological and esthetic result.

Laryngotracheobronchitis

REGINALD EVERETT, New York.

The exhibit shows the diagnosis, pathology, bacteriology, and treatment of the disease at the present time, with statistics and x-rays gathered from over 2,000 cases. The various instruments and implements required for the handling of these cases are included, with special reference to endoscopy and tracheotomy.

Deafness—Recent Advances in Diagnosis and Treatment

WILLIAM J. HITSCHLER and FRANKLIN RUTBERG, Jefferson Medical College, Philadelphia.

Charts, drawings, and posters illustrate how the ear hears, how to test and differentiate the kinds of hearing loss, and the appropriate treatments. Deafness in infants and children, the problems of rehabilitation, and hearing aids are included. Apparatus used in hearing testing and diagnosis are shown.

Tumors of the Pharynx and Larynx—Correlation of the Radiological and Otolaryngological Aspects

GEORGE B. FERGUSON, McPherson Hospital and Duke University School of Medicine, Durham, N. C.

The material consists of approximately 60 laryngeal x-rays and a clinical summary of each case, with a few Kodachrome pictures of the larynx. The field covers the normal larynx from infancy to complete calcification in the elderly adult, with some of the variations in normal calcification and calcification of accessory structures. Tumors of the epi-, oro-, and hypopharynx, including inflammatory tumors, are shown, together with benign and malignant tumors of the larynx proper.

Impaired Hearing in the Preschool Child

JOHN E. BORDLEY, WILLIAM G. HARDY, and MIRIAM D. PAULS, Johns Hopkins Hospital, Baltimore.

An outline is presented of the philosophy, basic science, and clinical procedures applicable to the treatment and management of problems of hearing impairment in the infant and preschool-age child. The exhibit includes some basic information in psychoacoustics, normal and aberrant development of language and speech in children, routine and special diagnostic procedures, audiologic interpretation, an analysis of a multiple case-load, modes of clinical guidance, and a series of typical case-histories.

Cancer of the Mouth, Pharynx and Upper Esophagus

EDGAR P. CARDWELL and SAMUEL A. GOLDBERG, Presbyterian Hospital, Newark, N. J.

The exhibit indicates methods by which morbidity following major surgery for cancer may be reduced by plastic procedures planned in advance and the free use of skin grafts. Transparencies, charts, and specimens are shown.

Section on Military Medicine

The representatives to the Scientific Exhibit from the Section on Military Medicine is CAPT. ROBERT V. SCHULTZ (MC) USN, Washington, D. C.

Use of Oxygen-rich Aerosol in Treatment of Broncho-pulmonary Diseases

LIEUT. ROBERT DENTON, USAF (MC), Sheppard Air Force Base Hospital, Wichita Falls, Texas.

This is a demonstration of equipment developed by an Air Force medical officer for use in the care of patients with respiratory disorders. Charts, photographs, and equipment present specific applications of oxygen-rich aerosol in treatment of bronchopulmonary diseases, including the use of equipment with an infant incubator, child-size oxygen tent, adult size oxygen tent, and tracheotomized patient in a respirator.

Equipment Aids Developed in the Orthopedic Section, U. S. Air Force Hospital, Maxwell Air Force Base

LIEUT. COL. ROBERT W. AUGUSTINE, USAF (MC), United States Air Force Hospital, Maxwell Air Force Base, Ala.

Several items of equipment which have been developed to aid in the operation on or rehabilitation of orthopedic surgery cases are presented. Much of the impetus behind these developments stems from the type of patient usually encountered in Air Force Hospitals, i. e., young adult males. Equipment includes a special hip operating table with built-in provisions for special x-ray facilities, a variable resistance hydraulic exerciser, and a new type of bone granulator.

Liver Diseases

LIEUT. COL. FRANK L. BAUER (MC), USA, Walter Reed Army Medical Center, Washington, D. C.

The exhibit shows the progress of the United States Army Medical Service in the etiology and treatment of liver diseases, with special emphasis on infectious hepatitis and the problem it presents to both the civilian and the military populations.

Amphibious and Field Medicine

CAPT. E. R. HERING (MC) U.S.N., LIEUT. COMDR. F. J. LEWIS JR. (MSC) U.S.N., and LIEUT. C. M. SMYTHE (MC) U.S.N., Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

Demonstration of field medical equipment are presented which were developed by the Naval Medical Field Research Laboratory, Camp Lejeune, N. C. Among the items to be displayed are portable x-ray equipment permitting daylight development of plates, bullet resistant clothing, field floodlights for operating room, shoes and arctics designed to prevent frostbite, portable sterilizer containing an electrical unit which does not burn out when water is completely evaporated, artificial respirator, electrical field blankets—all developed for practical field use. In addition, chains of casualty and patient evacuation are shown.

Vascular Surgery

BRIG. GEN. SAM F. SELLEY (MC) USA, and MAJOR EDWARD F. JANHKE, USAF (MC), Walter Reed Army Medical Center, Washington, D. C.

A series of colored photographs and drawings show the results of suturing severed blood vessels as opposed to previous practice of tying off several blood vessels. The results of procedures used at Walter Reed Army Medical Center and under field conditions in Korea are included.

Medicine and Research in Diving

LIEUT. (J.G.) E. H. LANPHIER (MC), U.S.N., Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

This exhibit presents the major physiological problems of diving and current research projects of the United States Naval Experimental Diving Unit. Diving equipment used for various purposes is shown. Visitors to the exhibit may observe the effects of helium oxygen breathing media on their own voices.

Dextran

LIEUT. COL. GLENN L. COLLINS (MC), U.S.A., Medical Research and Development Board, Office of the Surgeon General, U.S.A., Washington, D. C.

This exhibit depicts the United States Army Medical Service's experience in the use of dextran as a plasma substitute. Tests both in the United States and in Korea show the tremendous possibilities of dextran in the hands of the community physician and surgeon. Dextran removes the possibility of hepatitis transmission through plasma and is much less expensive than either plasma or albumin.

Electroencephalography in Combat Head Injuries

CAPT. ROBERT V. SCHULTZ (MC), U.S.N., Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

Serial E.E.G. tracings have proved to be a valuable adjunct in the evaluation of acute head injuries. With the rapid changes seen in some, it was evident that the earlier the series could be started, the more meaningful they would be. The extension of these observations to the immediate combat zone became possible, in December, 1951, when the hospital ship U.S.S. Consolation was placed above the 38th parallel off the east coast of Korea. Equipped with an E.E.G. machine and a helicopter flight deck that facilitated the reception of patients, initial tracings were secured within a few hours of the time of injury. Subsequent tracings were obtained aboard ship and, with the transfer of patients, at the base hospital in Japan.

V 19

Malaria

LIEUT. COL. HAROLD D. RATCLIFFE (MC), U.S.A., Medical Research and Development Board, Office of the Surgeon General, U.S.A., Washington, D. C.

This exhibit depicts the progress of the United States Army Medical Service in promoting the development and the use of newer and better drugs for the control of vivax malaria. Latest data on the effectiveness of Daraprim in treating the clinical state of vivax malaria are given.

U. S. Air Force Medical Service Medical Reporting System

H. M. C. LUYKX, Office of the Surgeon General, United States Air Force, Washington, D. C.

Proper maintenance and use of adequate medical records which must originate in hospitals is essential to any large medical operation. In the Air Force, there is an even greater and very long-range need for pertinent information because of the world-wide and continuously changing operational commitments. This exhibit reflects the essential flow of medical records to evolve the planning factors necessary in providing and projecting effective medical support for the Air Force.

Amebiasis

ERNEST CARROLL FAUST, Tulane University of Louisiana School of Medicine, New Orleans, and CAPT. GEORGE R. NICHOLSON (MC), U.S.A., Armed Forces Institute of Pathology, Washington, D. C.

The full story of amebiasis is presented, showing the importance of the disease, its diagnosis, treatment, and control, the life of the pathogenic ameba, and their relation to the patient.

Criteria for Pathological Diagnosis of Carcinoma of Prostate

F. K. MOSTOFI, Armed Forces Institute of Pathology, Washington, D. C.

The exhibit shows: (1) the histological types of carcinoma of prostate; (2) the lesions that simulate carcinoma; (3) reasons why probable carcinoma is missed; and (4) the histological criteria for the diagnosis of carcinoma.

Toxoplasma Chorioretinitis in Adults

HELENOR CAMPBELL WILDER, Armed Forces Institute of Pathology, Washington, D. C.

The exhibit illustrates the pathology of the chorioretinal lesions and the protozoa which were found in them. Brief statistical tables are included.

Section on Nervous and Mental Diseases

The representative to the Scientific Exhibit from the Section on Nervous and Mental Diseases is G. WILSE ROBINSON JR., Kansas City.

Surgical Treatment of Craniosynostosis

FRANC D. INGRAHAM, DONALD D. MATSON, and ROBERT L. MCLAURIN, Children's Medical Center, Boston.

The exhibit presents a summary of clinical and x-ray features of experience with 124 cases of premature fusion of the cranial sutures. Emphasis is placed on the importance of early recognition and surgical treatment, to minimize mental retardation, visual loss, and cranial deformity.

Pituitary Gland in Mental Illness as Seen Under Phase Microscope

JAMES W. PAPEZ and B. PEARL PAPEZ, Columbus State Hospital, Columbus, Ohio.

The exhibit consists of illustrations, photomicrographs, and views through a phase microscope of living and dead zoospores in cells of the pituitary gland. There will be shown: (1) spore-cases which give rise to dot-like zoospores that grow into large ring-forms; (2) sacs with brown, blue-green secretion in which filaments grow and mature into globules; (3) filaments, rods, and vascular forms; (4) statoblasts or dormant seeds, and exploring cysts; (5) globular zoospores, and mucoid sacs in which they collect, and (6) colonial groups of the above forms. The organisms appear to be blue-green algae of Nostoc and Oscillatoria species.

Carbon Dioxide Therapy of the Neurosis

A. I. JACKMAN and L. J. MEDUNA, Chicago.

The exhibit shows material and apparatus used for carbon dioxide therapy for the neuroses, with descriptive charts as to its effectiveness, safety and longevity. Reprints on publications concerning carbon dioxide therapy will be available for physicians requesting them.

Progress in Parkinsonism

LEWIS J. DOSHAY, ADOLFO ZIER, and KATE CONSTABLE, Columbia University College of Physicians and Surgeons, New York.

Charts, drawings, and photographs portray diagnostic criteria of the three types of parkinsonism, their etiology, nature of onset, course, and pathology. The exhibit summarizes current concepts on solanaceous and synthetic drug therapy, physiotherapy procedures and programs, basic psychotherapeutic principles, and discusses vaccine therapy, neurosurgery, occupational therapy, vitamins, hormones, parenteral therapy, diet, and work. Photographs and charts portray current and anticipated programs of research in parkinsonism.

Epilepsy—A New Series of Chemical Compounds

FREDERIC T. ZIMMERMAN and B. B. BURGEMEISTER, Neurological Institute, New York.

Over a period of five years of synthesizing and testing various chemical compounds for use in the treatment of epilepsy, it was found that the succinimide group has significant anticonvulsant properties. All compounds have been evaluated clinically. The exhibit presents the clinical results of the most promising compounds with methods of evaluation.

Myasthenia Gravis—Management and Diagnosis with Edrophonium Chloride (Tensilon)

KERMIT E. OSSERMAN and LAWRENCE I. KAPLAN, the Mount Sinai Hospital, New York.

The exhibit includes (1) graphic visualization of the clinical symptoms and pathological physiology of myasthenia gravis, with a summary of other diagnostic tests used; (2) pictorial and written presentation illustrating the use of edrophonium (Tensilon) for a rapid diagnostic test for myasthenia gravis suitable for office or clinic, with advantages over other diagnostic methods emphasized; (3) photographs of patients before and after intravenous administration of edrophonium; and (4) outline of differential diagnosis of borderline myasthenia gravis based on the edrophonium test.

Continuous Drainage of Spinal Fluid During Operations on the Brain

RUDOLPH JAEGER and WILLIAM H. WHITELEY, Jefferson Medical College and Hospital, Philadelphia.

Continuous spinal drainage during intricate operations on the brain is a maneuver of extreme value in such procedures. With certain precautions, this is entirely safe, and makes intracranial surgery technically easier because of the space gained by removing the fluid. Certain technical tubing and a spinal cannula have been devised for the safe, secure installation of the tubing used for the drainage. The exhibit demonstrates the use of the equipment in operations for brain tumor, tic douloureux intracranial aneurysm, and other diseases of the brain, requiring precise technical skill.

Control of Side-Effects of Anticonvulsant Drugs

ROBERT S. SCHWAB, JOHN A. ABBOTT, and WILLIAM H. TIMBERLAKE, Harvard Medical School and Massachusetts General Hospital, Boston.

The exhibit includes (1) a review of deaths and serious toxic reactions to newer anticonvulsants; (2) review of techniques such as white blood cell counts and determination of urinary urobilinogen or albumin, to detect early signs of bone marrow changes, hepatic or renal reaction to drug used, and supervision of the benign involvement; (3) analysis and description of benign side-effects, such as irritability, poor memory, loss of skills, loss of potency, drowsiness, ataxia, anorexia, and skin eruptions, found with all anticonvulsants if they are poorly tolerated by the individual, and their modification without risking major seizures. Emphasis is placed on individualizing medication for each patient in relation to his problems at work and in his environment.

Neurological Aspects of Vitamin Deficiencies

AUGUSTUS GIBSON, CHARLES E. LYGHT, ELMER ALPERT, ROBERT A. PETERMAN, and LYON P. STREAN, Rahway, N. J.

The exhibit presents the pathogenesis, metabolism, signs and symptoms, diagnosis, and treatment of some neurological disorders associated with vitamin deficiencies.

Aphasia and Parietal Syndromes—A New Viewpoint

LELAND B. ALFORD, St. Louis.

The various clinical pictures or syndromes that have been connected with cortical injuries in the speech zone and parietal region have increased to more than 50. The syndromes are examined for their real validity as direct expressions of cerebral injuries. As a result of such examination, this exhibit discloses that another interpretation is possible, namely, that many of the syndromes are really only functional artefacts that are not significant except as indications of mental instability or variability. The nature and mechanism of a selected few of the pictures such as nominal aphasia, syntactical aphasia, visual agnosia, apraxia, confusion of right and left, and disorders of the body scheme are illustrated in the exhibit.

Section on Obstetrics and Gynecology

The representative to the Scientific Exhibit from the Section on Obstetrics and Gynecology is FREDERICK H. FALLS, Chicago.

A Comparative Survey of Methods Used to Evaluate the Menstrual Cycle

EDWARD T. TYLER, Los Angeles.

This exhibit presents a critical analysis of various methods of studying the menstrual cycle from the standpoint of determining (1) endocrine changes and (2) occurrence of ovulation. The methods evaluated include vaginal smears, cervical mucus studies (crystallization and spinnbarkeit), vaginal fluorescence, basal body temperatures, pregnandiol assays, and endometrial biopsies.

Pregnancy in the Bicornuate Uterus

FREDERICK H. FALLS, University of Illinois College of Medicine and CHARLOTTE S. HOLT, Illinois State Department of Public Health, Chicago.

The exhibit illustrates the embryological development of the normal human female genitalia and various anomalies which develop because of interference with this process. The comparative anatomy in other vertebrates is also shown and the analogy between these uteri and the human bicornuate uterus is pointed out. The obstetrical complications which arise in women when such uteri become pregnant are depicted, together with suggested management.

Effect of Nursing on the Postpartum Uterus

ROBERT B. DORSEN, U. S. Public Health Service Hospital, Staten Island, N. Y.

A two year study of 600 postpartum patients at the U. S. Public Health Service Hospital in New Orleans is presented. Oxytocics, blood pressure, blood loss, involution, lochia, headache, nausea, fundus height, and afterpains are included in this comparison between nursing and non-nursing patients. The parity of the patient is also evaluated.

Marriage Counselling

A. P. HUDGINS, Charleston, W. Va.

The display presents (1) the relationship between emotional conflicts and physical complaints, industrial efficiency, accident rates and absenteeism; (2) the importance of the physician's role as a counsellor in determining the physical and emotional status of the couple and (3) methods and means to facilitate diagnosis and therapy as a counsellor.

Diagnostic Survey of the Infertile Couple

WALTER W. WILLIAMS, Springfield, Massachusetts and MELVIN R. COHEN, Chicago.

This exhibit outlines and illustrates the principal features in the routine diagnostic survey of the infertile couple, as concerns the general health of the individuals, the health of the generative organs, and the health of the germinal cells, both ova and spermatozoa. The significance of these basic diagnostic studies is demonstrated.

Culdoscopic Diagnosis of Gynecologic Disease

ALBERT DECKER and MARTIN J. CLYMAN, Polyclinic Hospital and Knickerbocker Hospital, New York.

This exhibit illustrates the indications and technique for diagnostic cul-de-sac puncture for the purpose of aspiration, production of pneumoperitoneum, and culdoscopic visual diagnosis of obscure pelvic disease. The cytology of aspirated pelvic peritoneal fluid and microscopic sections of material removed for biopsy is shown. The precise culdoscopic appearance of tubal pregnancy, pelvic endometriosis, tuberculosis, microcystic ovarian disease, and chronic pelvic inflammatory disease is illustrated by colored drawings and photographs from actual cases. Several physiological conditions of the tubes and ovaries are also depicted, together with pathological conditions associated with menstrual dysfunctions of obscure origin.

The Value of Periodic Examination in the Control of Pelvic Cancer and Breast Cancer

CATHERINE MACFARLANE, MARGARET C. STURGIS and FAITH SKINNER FETTERMAN, Woman's Medical College of Pennsylvania, Philadelphia.

The exhibit shows charts and models of the uterine cervix, healthy and diseased, as encountered in 660 presumably well women over a period of 15 years. This clinical research was undertaken in 1938 to determine the value of periodic pelvic examination in the detection of early cancer on conditions of predisposing to cancer. Of the initial group of 1319 volunteers, 660 continued to come for examination in 1952, the 15th year of the research. Since 1942, the breasts of the volunteers have also been regularly examined.

Levator Myography in the Study of the Supportive Mechanism of the Uterus.

I. C. RUBIN and B. BERGLAS, New York University College of Medicine and Mount Sinai Hospital, New York.

The exhibit includes (*a*) microscopic sections of the female pelvis showing anatomical relations of the pelvic connective tissues to the pelvic viscera; (*b*) roentgenograms of the levator

ani muscle produced by intramuscular injection of contrast mediums, with myograms showing the relation of uterus to the muscular pelvic floor; and (c) transparencies illustrating the muscular structure of the pelvic floor in the female.

Diseases of the Cervix and Their Office Management

HENRY C. FALK, Beth Israel Hospital, New York.

This is an exhibit of photographs in color of various conditions of the cervix usually seen. Their management and follow-up is shown with Kodachrome enlargements.

Urethrovesical Relationships in Female Stress Incontinence

C. PAUL HODGKINSON, HOWARD P. DOUB and WILLIAM BOUCHER, Henry Ford Hospital, Detroit.

The exhibit consists of comparative photographs of x-ray pictures for demonstration of urethral configuration. Pre- and postoperative, nonstraining and straining, films are shown. Various anatomical changes resulting from operative procedures, i. e., the Kennedy, Kelly, Marshall-Marchetti, Millin Red and Aldridge operations are included.

Preinvasive Cancer and Pregnancy

BEN M. PECKHAM, R. R. GREENE, G. H. GARDNER, J. T. CHUNG, M. A. BAYLY, H. B. W. BENARON, LEON A. CARROW, VICKI CATALANI, GEORGIA HOWELL, and MILDRED MILLIGAN, Northwestern University Medical School, Wesley Memorial Hospital and Chicago Maternity Center, Chicago.

Evidence is presented that lesions similar to preinvasive carcinoma of the cervix found in pregnant patients are not evanescent pregnancy changes. Paired photomicrographs of the lesions during pregnancy and after the termination of the pregnancy show that the lesions persist and are true preinvasive carcinoma. Other paired photomicrographs demonstrate that equivocal or lesser changes also persist in the majority of instances and thus are also not pregnancy changes. Detailed tabulations of data on each patient are included, and reprint material will be available for distribution.

Evaluation of Cervical Cytology in Office Practice

CLYDE L. RANDALL, RICHARD W. BAETZ, DONALD W. HALL, and PAUL K. BIRTCH, University of Buffalo, Buffalo, N. Y.

Photographs depicting the methods of obtaining cervical smears and data indicating the incidence of the significant lesions found to date are presented along with figures portraying the cost to the patient and to the office. Smears taken by the Ayre spatula do not require prolonged microscopic study nor is interpretation difficult. In the earliest, clinically unsuspected, cases of squamous cell carcinoma, the smears of specimens obtained with the Ayre spatula are loaded with malignant cells and reading the slide requires only two or three minutes. As a rule, malignant cells are so obvious that long-term training in interpretation of slides is not necessary.

Bridge Clamp Technique for Total Hysterectomy

ROBERT TAUBER, Graduate School of Medicine, University of Pennsylvania, Philadelphia.

The cause, site, and prevention of defective hemostasis in dissecting a bridge of tissue and the so-called transverse cut for the correct placing of consecutive ligatures are shown. The commonly used crushing clamps, which must be replaced by ligatures after the tissue has been dissected, are eliminated, and the embracing bridge clamp is described which allows the ligation of the tissue before it is cut. Plastic models show a new technique for abdominal total hysterectomy which is based on the use of the bridge clamp and the transverse cut.

Pathology of Ovarian Tumors

GORDON J. HIPPERT and EDWARD G. WINKLER, University of Buffalo School of Medicine and E. J. Meyer Memorial Hospital, Buffalo, N. Y.

Kodachrome slides show the gross and microscopic aspects of the normal ovary and benign and malignant tumors, with appropriate commentary. An outline of the classification of ovarian tumors is shown simultaneously as these tumors are being discussed.

The Doyle Pelviscope

JOSEPH B. DOYLE, Tufts Medical School, Boston.

The pelvis is explored through the culdotomy orifice in the posterior fornix of the vagina. The pelviscopy kit comprises a right angle retractor with two terminal lights and two large telescopes (pelviscopes) each lighted and with a right angle or for-oblique* lens system. The pelvic contents can be observed, palpated, and biopsied or resected. Relief of uterine pain has been obtained by division of Frankenhauser's plexus in and between the uterosacral ligaments per vaginam.

Section on Ophthalmology

The exhibit committee of the Section on Ophthalmology consists of WILLIAM F. HUGHES JR., Chicago, Chairman; WALTER H. FINK, Minneapolis, and DONALD J. LYLE, Cincinnati.

Pigmented Tumors of External Eye and Adnexa

A. RAY IRVINE JR., Estelle Doheny Eye Foundation, Los Angeles.

The differences and similarities of pigmented lesions involving the external eye and adnexa are presented. Such lesions are classified in the light of present concepts with regard to prognosis and therapy. The material is illustrated with Kodachrome transparencies of gross and microscopic material supplemented by drawings and printed commentary.

Early Retinal Vascular Changes in Relation to Elevated Diastolic Pressure

HENRY MINSKY, New York.

Retinal vessels are described and illustrated that show changes in early hypertension. The appearance is correlated with the diastolic pressure.

Models of Gonioscopic Views of the Anterior Chamber Angle

ARTHUR SHAINHOUSE, DANIEL KRAVITZ, and ELAINE SHAINHOUSE, Brooklyn Eye and Ear Hospital, Brooklyn.

The exhibit consists of a series of ceramic models demonstrating the gonioscopic findings of the angles of the anterior chamber of eyes of patients studied in the glaucoma clinic of the Brooklyn Eye and Ear Hospital. Patients with normal and pathological eyes were studied, and models made of some of the more interesting and illustrative angles. Particular attention is paid to such conditions as glaucoma and complications following various intraocular operations.

Ocular Prosthetics—Solutions of Several Common Fitting Problems

ALSON E. BRALEY, HOWARD WEBSTER and LEE ALLEN, University Hospitals, Iowa City, Iowa.

Single cases, typical of the various problems, are shown in photographs and schematic drawings. A large collection of plastic eye forms, cast directly from the original custom prostheses molds, are classified according to their most prominent variants. The exhibit outlines the technique which, during a period of seven years of use and continued experimentation, has been most successful in production of custom prostheses.

A Magnetic Implant for Increased Motility Following Enucleation

RICHARD C. TROUTMAN, New York.

The exhibit consists of models and drawings of the magnetic implant. It contains serial Kodachrome slides of the technique for placing the implant and a series of pictures of postoperative results of the use of this implant in patients. Slides and tables of statistics are included, concerning the use of this implant over the past five years.

Section on Orthopedic Surgery

The representative to the Scientific Exhibit from the Section on Orthopedic Surgery is J. VERNON LUCK, Los Angeles.

Surgical Management of Sacral Chordomas and Allied Tumors

C. S. MACCARTY, J. M. WAUGH, M. B. COVENTRY and D. C. DAHLIN, Mayo Clinic, Rochester, Minn.

This exhibit presents a new surgical technique for the treatment of chordoma of the sacrum and other tumors of this region. The unsatisfactory surgical results that have been obtained in the past were chiefly due to the fact that either a general surgeon, a neurological surgeon, or an orthopedic surgeon attacked the problem singly. However, these three specialists working as a team can remove such tumors successfully. The exhibit shows (1) technique of exposure and removal of the tumor together with the portion of the involved sacrum and (2) experience with this technique of removing sacral tumors, from Jan. 10, 1948, to Jan. 10, 1952, with a review of 17 cases.

Popliteal Aneurysms, Etiology, Diagnosis, Prognosis, Treatment—A Study of 100 Cases from 1913 to 1950

JOSEPH M. JANES and RAY W. GIFFORD, Mayo Clinic, Rochester, Minn.

As the majority of popliteal aneurysms are arteriosclerotic in origin, they are being found with greater frequency as the life span of the general population increases. The serious threat which a popliteal aneurysm poses to the life of the limb that harbors it and often to the life of the patient has been recognized. In a series of 100 popliteal aneurysms seen at the clinic, 62 were complicated. Eighteen of the 75 untreated aneurysms lead to amputation of the limb. The data in this exhibit covers a period from 1913 to 1950. Special attention is accorded to the method of treatment involving sympathectomy and extirpation of the aneurysm.

Does Your Shoe Battle Your Foot?—Evolution and Present Concept of Shoe Design

HARRY C. STEIN and IRVING E. FIXEL, New York.

The exhibit embodies the more pertinent features pertaining to the evolution, structural peculiarities, physiology, and biomechanics of the human foot; the evolution, construction, and characteristics of design of the conventional shoe with numerous examples of shoes through the various periods; a detailed critical analysis of the conventional present day shoe outlining the serious defects in its design and its interference with the normal biomechanics of the foot; and the resulting functional and structural breakdown of the foot with the progressive chain of further complications. Proposed innovations in shoe design are described in detail. Surgical consideration of some of the principles involved are presented.

Mechanical Pitfalls in Internal Fixation of Fractures

MEYER M. STONE and ROBERT H. KENNEDY, Beekman-Downtown Hospital, New York.

The exhibit consists of bone plates and screws removed from cases in which either delayed union or nonunion occurred. Failure of the fracture to unite was due to either loosening or breaking of the bone plate or screws. The exhibit shows some of the defects in screws and plates which may contribute to a failure in internal fixation. Charts and roentgenograms are shown to coordinate the display of plates and screws with the actual cases.

Dynamic Posture—The Human Body in Action

M. BECKETT HOWORTH, New York.

The exhibit demonstrates (1) basic postures in sitting and standing; (2) basic dynamic position; (3) applications of basic dynamic position to walking, running, going up and down stairs, lifting, daily activities such as housework, and sports such as boxing, riding, track, tennis, skiing, dancing; and (4) applications to prevention of falls and other accidents.

The Treatment of Spondylolisthesis with and without Vertebral Displacement

DAN BAKER, ARTHUR B. KING, and WILLARD DOTTER, Guthrie Clinic, Sayre, Pa.

The exhibit shows charts, drawings, and reproductions of x-rays relating to the diagnosis and treatment of this condition. The disease may be associated with a ruptured intervertebral disk. The diagnosis and treatment are illustrated and discussed.

Primary Reticulum Cell Sarcoma of Bone

NORMAN L. HIGINBOTHAM and BRADLEY L. COLEY, Memorial Center for Cancer and Allied Diseases, New York.

The exhibit illustrates the natural history of this newly described primary bone tumor. Material is based on a recent study of 37 cases. The five year survival rate is about 50%.

Scapulocostal Syndrome

ARTHUR A. MICHELE, Brooklyn, and FREDERICK KREUGER, Milwaukee, New York Medical College and U. S. Public Health Service Hospital, Staten Island.

Drawings, photographs, and charts illustrate the etiology, diagnosis, and recommended treatment for the scapulocostal syndrome.

Acute Low Back Strains—Anatomical and Clinical Observations

SPENCER T. SNEDECOR, Hackensack, N. J., and ANDREW C. ROUFF III, Paterson, N. J.

Acute low back strain is the major injury problem of American industry. The exhibit includes results of a survey of acute injuries. Patients were examined immediately and followed by an orthopedic team in a large factory where 164 consecutive cases were studied over a three year period. Significant factors in mechanism, diagnosis, x-rays, prognosis, treatment, and end results are shown. The scope of the survey, statistical summaries, and drawings from special anatomical dissections of structures involved are included.

Comparative Anatomic and Radiographic Studies of the Big Toe—Emphasis on the Articular Surfaces of the Metatarsophalangeal Joint

CHARLES J. SUTRO, Hospital for Joint Diseases, New York.

Correlative radiographic and anatomic studies were made of the metatarsophalangeal regions of the big toe. Special emphasis was placed on the normal variations of the microscopic appearance of the articular surfaces of the metatarsophalangeal articulation and of the contiguous sesamoid bones in the various age groups. The aberrations caused by local deformities such as hallux valgus or hallux rigidus on the local articular surfaces were correlated with the roentgenograms of the part. The so-called exostosis on the medical aspect of the first metatarsal bone usually observed in hallux valgus is discussed.

Herniated Cervical Disk

BERNARD JUDOVICH and GOLDA R. NOBEL, Graduate Hospital, Philadelphia.

Signs, symptoms, and procedures in the diagnosis and treatment of brachial plexus pain are presented, with a method of differential examination, including compression and traction maneuvers. The mechanical effect of varying degrees of traction force on the cervical spine and its importance in the relief of pain are depicted. Observations are given on the nature of the headache associated with herniated cervical disk and the painful conditions affecting the cervicobrachial plexus. Physical findings indicate that the headache in many of these cases is vascular in origin. Interscapular pain may be a predominant feature of herniated cervical disc. This is differentiated from other conditions which cause pain in this region, with emphasis upon visceral-referred pain.

Section on Pathology and Physiology

The Section on Pathology and Physiology is cooperating in the Special Exhibit on Fresh Pathology. The representative to the Scientific Exhibit is FRANK B. QUEEN, Portland, Ore.

Control of Trichinosis by Irradiation of Pork

S. E. GOULD, Wayne County General Hospital, Eloise, Mich., HENRY J. GOMBERG, Michigan-Memorial Phoenix Project, University of Michigan, Ann Arbor, Mich., and FRANK H. BETHELL, Atomic Energy Commission Laboratory, University of Michigan, Ann Arbor, Mich.

Illustrations indicate the points at which the cycle of trichina infection may be broken by various doses of ionizing radiation (from x-ray or cobalt-60). Relatively small doses of radiation (compared to the lethal dose of 1,000,000 r) are required to render trichina larvae in pork incapable of transmitting the infection to man. This technique offers a method for the control of trichinosis that is rapid, simple and convenient. The irradiation of pork, from freshly slaughtered hogs, would afford protection directly at the consumer's level and, therefore, would be more effective than other measures designed to prevent trichinosis.

Histology of Diseases of the Nails—Resume of 241 Cases

CLEVELAND J. WHITE, Mercy Hospital, Stritch School of Medicine of Loyola University and THOMAS C. LAIPPLY, Wesley Hospital and Northwestern University Medical School, Chicago.

Photomicrographs of the above and other conditions are shown including the various common diseases of the nails. Photographs and charts summarize the histological findings of these conditions.

Citrate Clotting Time—A Universal Guide in Dicumarol and Heparin Therapy

SAMUEL LOSNER and BRUNO W. VOLK, Jewish Sanitarium and Hospital for Chronic Diseases, Brooklyn, N. Y.

The addition of suboptimal concentrations of sodium citrate to venous blood prolongs the clotting time in a fashion which is characteristic for the degree of a therapeutically induced coagulation defect by either dicumarol or heparin. If 1 cc. of venous blood is added to 1 cc. of 0.003 molar solution of sodium citrate, coagulation at 37 C will occur after 14 to 20 minutes, averaging 16.5 minutes. This has been termed citrate clotting time. The administration of either dicumarol or heparin prolongs the citrate clotting time markedly to a degree parallel with the increasing prothrombin time or Lee-White clotting time respectively. Anticoagulant therapy has been found to be safe when the citrate clotting time varied from 30 to 50 minutes.

Architecture of the Adrenal Cortex

HANS ELIAS, JOHN E. PAULY and HANS POPPER, Chicago Medical School and Hektoen Institute for Medical Research and Cook County Hospital, Chicago.

Investigations of the architecture of the adrenal cortex based on three dimensional analysis by geometrical methods and reconstruction are shown. These studies alter the classical concept of adrenal structure, demonstrating a continuous parenchyma instead of separated glomeruli and cords. The relationships between parenchyma, connective tissue, and vasculature are illustrated. Possible applications of these findings to the physiology and pathology of the organ are suggested.

Animal Neoplasms

C. D. VAN HOUWELING, N. R. BREWER, E. A. BENBROOK and J. R. PICKARD, American Veterinary Medical Association, Chicago.

This exhibit depicts some of the common animal neoplasms of cattle, dogs and chickens, grossly and microscopically. There is also information pertaining to the incidence of neoplasms in food-producing animals, and their economic, public health, and research significance.

Microbiology of Proliferative Diseases

LAWRENCE W. SMITH, VIRGINIA WUERTHELE-CASPÉ, GEORGE A. CLARK, ELEANOR ALEXANDER-JACKSON and JOSEPH PATTI, Cancer Research Laboratory of the Presbyterian Hospital, Newark, N. J.

The exhibit illustrates (1) cultural and morphological characteristic of certain acid-fast pleomorphic organisms recovered regularly from the blood and tumor tissue of cancerous patients; (2) pathological changes, including malignancy, induced in animals by these organisms on serial transfer, directly and through eggs; (3) experimental heterologous (human) transplants into experimental animals; (4) effect of vaccines and immune serums developed from the above-mentioned organisms in vito and in experimental therapy in both animals and man; and (5) response to certain antibiotic and chemotherapeutic agents.

Studies of Normal and Abnormal Growth and Development

STANLEY P. REIMANN, SIDNEY WEINHOUSE, ROBERT BRIGGS, and HUGH CREECH, The Institute for Cancer Research, Inc., and the Lankenau Hospital Research Institute, Philadelphia.

The exhibit shows the activities of the various departments of The Institute for Cancer Research, Inc., and the Lankenau Hospital Research Institute, Philadelphia. A booklet gives in more detail the problems investigated, the reasons for their attack, and results to date, with implications.

Studies in Endocrine Balance

CLARENCE C. LITTLE, MARGARET DICKIE, M. N. RUNNER, and JOHN L. FULLER, Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Maine.

This exhibit depicts the interrelations of hormones and their effect on carcinogenesis, fertility, and response to stress in experimental animals. The variations in the response of the endocrine system which exist between inbred strains of mice have been utilized to show the importance of genetic constitution in determining the results of a particular experimental treatment. Emphasis is placed on the interrelationships of the pituitary and adrenal glands, and the gonads. It is shown that the consequences of such procedures as castration cannot be generalized from experiments on one type of animal alone but must be studied in a wide variety of strains of different constitutional types. The biological individuality of the different strains of mice is comparable to the individual variability found in clinical practice.

Antibiotic Sensitivity—Testing of Bacteria

COL. DWIGHT M. KUHNS (MC), U.S.A. Office of the Surgeon General, MATTHEW H. FUSILLO, Walter Reed Army Hospital, and MONROE J. ROMANSKY, George Washington University Medical Division, Washington, D. C.

The exhibit describes two methods of testing of antibiotic sensitivity of bacteria, with applications of this type of laboratory data to clinical cases. Charts depict the sensitivity of various micro-organisms to the more widely used antibiotics such as penicillin, streptomycin, aureomycin, chloromycetin and terramycin, as well as newer antibiotics erythromycin and carbomycin. Reasons for the necessity of bacterial antibiotic sensitivity testing are elaborated.

Sudden Apparently Unexplained Death During Infancy

JACOB WERNE and IRENE GARROW, Office of the Chief Medical Examiner, City of New York, Flushing Hospital, and St. John's Long Island City Hospital, New York.

This exhibit summarizes 21 years' experience in the investigation of sudden apparently unexplained death during early life (unexplained, because the gross autopsy findings were inconclusive). The clinical, epidemiological, and pathological findings are presented, indicating the association of such deaths with fulminating respiratory disease. Emphasis is placed upon the morphological findings that indicate a relationship between respiratory infection and these sudden deaths.

Certification of Medical Technologists

LALL G. MONTGOMERY and RUTH DRUMMOND, American Society of Clinical Pathologists, Muncie, Ind.

The exhibit shows function and activities of Board of Registry of Medical Technologists of the American Society of Clinical Pathologists in its work of setting standards for medical laboratory workers and certifying them. Lists of approved schools for medical technologists and statistics on salaries, distribution of registrants, and various other elements pertaining to the general picture of the progress of this phase of medical laboratory work are included.

Atomic Energy for Human Diseases

JOHN T. GODWIN, Brookhaven National Laboratory, Upton, N. Y.

The exhibit shows steps in the production and administration of radioactive chlorine and its effect on the peritoneum and pleura, the therapeutic action of radioactive phosphorus on the spleen and bone marrow, radioactive iodine and the thyroid, and the effect of slow neutrons on some brain tumors.

Otitis Externa

ALBERT L. MCQUOWN and JAMES W. MCLAURIN, Louisiana State University School of Medicine, Tulane University of Louisiana School of Medicine and Our Lady of the Lake Sanitarium, New Orleans and Baton Rouge, La.

External otitis is a common infection and is generally bacterial. It is often resistant to treatment. Rational therapy requires the isolation of the specific organism, its identification, and treatment with specific therapeutic agents. A consecutive series of 300 cases is presented. A method of procuring pure cultures from the external canal is shown which also incorporates the principle of treatment. The sensitivity of each organism has been tested to numerous drugs and antibiotics.

Fundamental Principles of Fluid, Electrolyte, and Acid-Base Balance

WILLIAM S. HOFFMAN, JOSEPH D. BOGGS, CLARENCE COHN, and HARRY F. WEISBERG, Chicago.

The exhibit explains the distribution of body water and electrolytes, the mechanism and manifestations of metabolic and respiratory acidosis and alkalosis, the characteristic features of the serum and urine composition in clinical dehydration, and the fundamental aspects of disturbances in potassium metabolism in disease. The exhibit is sponsored jointly by the College of American Pathologists and the American Society of Clinical Pathologists.

Section on Pediatrics

The Section on Pediatrics is featuring a group of exhibits on childhood accidents. The representative to the Scientific Exhibit is F. THOMAS MITCHELL, Memphis, Tenn.

Diseases Related to Pelvic Parasympathetic System—Hirschsprung's Disease, Megalobladder and Megaloureters

ORVAR SWENSON, MARSHALL KREIDBERG and CARROLL BERMAN, the Boston Floating Hospital for Infants and Children, Boston.

Classification of types and diagnostic features of megacolon end results of treatment as shown on roentgenograms, and photographs of patients are presented. Recent experimental work on megaloblader and megaloureters is demonstrated by roentgenograms, cystometrograms, and recordings of ureteral peristalsis. Results of treatment of these anomalies based on this new concept of the pathological process are presented.

Surgical Emergencies of Infancy and Childhood

ERNEST E. ARNHEIM, Mount Sinai and Beth Israel Hospitals, New York and Beth-El Hospital, Brooklyn.

The exhibit presents experiences in the management of 300 cases of 19 types of surgical emergencies of the newborn period, infancy, and childhood in three general hospitals. The conditions are classified according to the age groups of the children. The pathological and clinical features, diagnosis, treatment, and results are reviewed and illustrated by the use of photographs, drawings, and tables.

Blood Levels in Relation to Dosage of Sulfisoxazole in Children, with Clinical Observations

ARILD E. HANSEN and C. CLIFT PRICE, University of Texas School of Medicine, Galveston, Texas.

The exhibit shows the blood levels of 136 infants and children following various doses of sulfisoxazole administered by different routes. The results of therapy in 82 ill patients given this drug as the sole therapeutic agent, with consideration of the toxic effects, are indicated.

Simplified Approach to Modern Infant Feeding

HAROLD D. LYNCH and W. D. SNIVELY JR., Evansville, Ind., and JOSEPH AZZOUNI, St. Louis.

This exhibit presents a simplified approach to infant nutrition during the important first year. It outlines the goals to be achieved, and presents a modified self-regulating method for arriving at proper volumes and intervals of feedings. It describes the 1-2-4 formula, so-called from the proportions of carbohydrate, milk, and water used. The introduction of semi-solid and solid foods is covered, with emphasis on the hazards of too early introduction of solids to infants not ready for them. Vitamin and mineral needs are covered briefly. Considerable emphasis is given to the important matter of preparing the mother and baby for the second year, when the mother must sublimate her maternal instinct for getting food into her offspring and devote more attention to his growing up process.

Lymphosarcoma in Childhood

HAROLD W. DARGEON, Children's Tumor Registry, Memorial Cancer Center, New York.

Lymphosarcoma during childhood is erroneously considered to always have a hopeless prognosis. Certain features concerning the clinical courses of 27 children with lymphosarcoma and 5 patients who are surviving and well 5 to 19 years after the onset of their disease are illustrated.

Current Trends in Premature Care

ALFRED J. VIGNEC, St. Vincent's Hospital, New York.

The exhibit shows care and treatment of premature infants in a modern autonomous premature unit as compared with care under general nursery conditions. Material and statistical data drawn from St. Vincent's Hospital, New York, covering the two years before the organization of the unit and the first two full years of its operation are presented. Comparative survival rates, amount of time spent in incubators, methods of feeding, types of morbidity, methods of treatment, improvement of nursing care, etc., are included.

Pediatric Neurological Emergencies

ADOLPH G. DESANCTIS, IRVING S. COOPER and THOMAS I. HOEN, University Hospital, New York University-Bellevue Medical Center, New York.

This exhibit deals with the commonest pediatric neurological emergencies, mostly those of coma and convulsions. The commonest causes of these convulsions are given, with brief comment as to management of each condition. Subdural hematoma and meningitis as causes of coma and convulsions are discussed in detail.

Congenital and Developmental Deformities of the Chest

CHARLES W. LESTER and WALTER A. WICHERN, New York.

The exhibit shows deformities due to (1) absent ribs; (2) scoliosis due to fused ribs; (3) multiple thoracic deformities due to fused ribs and hemivertebrae; (4) protrusion deformities of chest with (*a*) arcuate sternum (pigeon breast), (*b*) oblique protrusion of sternum (pyramid chest), and (*c*) protrusions lateral to sternum; and (5) funnel chest (pectus excavatum). The etiology and pathology are discussed, and indications are given for operation when that is advisable, and the operative procedures diagrammed.

Changing Concepts of Splenectomy in Childhood

IRVING J. WOLMAN, B. DICKSTEIN, P. EGLICK, R. COHEN, C. E. KOOP and W. B. KIESEWETTER, The Children's Hospital of Philadelphia, Philadelphia.

Clinical, laboratory, and follow-up data are available on some 65 children subjected to splenectomy over the past 20 or more years. The majority of these were operated on because of some hematological disturbance. The most frequent disorders were thrombocytopenic purpura, Mediterranean anemia, sickle cell anemia, and congenital hemolytic anemia. The exhibit comments on clinical signs, laboratory data, and indications for splenectomy and gives results of follow-up studies after splenectomy, including comparisons with control series of cases in which operation was not done.

Facts About Accidents to Children.—A General Summary

THOMAS FANSLER, National Safety Council, Chicago.

After the period of infancy, accidents kill more children than any single disease. In the age group of 1 to 14 years accidents kill about 10,000 children, and about half of this total falls in the age group of 1 to 4 years. Accidents to children take as many lives as pneumonia, cancer, congenital malformations, tuberculosis, and poliomyelitis combined. These are the next five important causes in order. Accidents are especially important among the preschool group.

The Physician in Child Accident Prevention

GEORGE M. WHEATLEY, EARL C. BONNETT, and W. GRAHAM COLE, Metropolitan Life Insurance Company, New York.

The exhibit stresses the relationship of accidental injury, including poisoning, to the phases of growth and development of preschool and school children. It shows opportunities and techniques that practicing physicians can use in the study and prevention of accidents.

Poisoning and Accident Prevention in Children

BERNARD E. CONLEY, Committee on Pesticides, American Medical Association, Chicago.

This exhibit presents typical fatal accidents in children due to drugs, household chemicals, and pesticides. The focal points of danger in and around the home are illustrated, with actual cases of injury that have occurred with the common agents in the three classes of chemicals listed. Preventive measures are described for the various accident situations presented.

Childhood Plumbism

MANFRED BOWDITCH, Lead Industries Association, New York, RANDOLPH K. BYERS, Children's Medical Center, Boston, and JAMES J. CHISOLM JR., Johns Hopkins Hospital, Baltimore.

This is an exposition of the activities of the Lead Industries Association directed toward (*a*) evaluation of the problem of plumbism in infants and children, (*b*) development of means of prevention, (*c*) promulgation of sound etiological and diagnostic criteria, and (*d*) investigation of methods of treatment.

Toxic Hazards in Hobbies

HAROLD C. HODGE, MARION GLEASON, and RUTH GASTEL, University of Rochester School of Medicine, Rochester, N. Y.

The exhibit shows results of the most recent poisoning cases reported in a survey conducted by the American Academy of Pediatrics. Hazards in hobbies such as stamp collecting, gardening, and boating are included.

Do You Know What a Severe Burn Costs?

LENDON SNEDEKER and DONALD W. MACCOLLUM, The Children's Medical Center, Boston.

The exhibit shows the experience at the Children's Medical Center with respect to the incidence and various causes for burns and scalds. The prime requisites for therapy are indicated, together with the serious economic aspects of the treatment of severe burns from the standpoint of a regional hospital for children. Pertinent suggestions with regard to prevention and after care are made.

Section on Physical Medicine and Rehabilitation

The representative to the Scientific Exhibit from the Section on Physical Medicine and Rehabilitation is ARTHUR L. WATKINS, Boston.

Rehabilitation Procedures for Children with Physical Disabilities

HOWARD A. RUSK, GEORGE G. DEAVER, and W. KENNETH LANE, Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, New York.

The exhibit shows (1) records and methods of evaluation of children with physical disabilities, with pictures of each procedure; (2) pictures of disabilities that can be helped by rehabilitation; (3) methods of rehabilitating children with spina bifida; and (4) appliances to help the disabled child in meeting demands of early living. Demonstrations will be carried out with patients.

Sheltered Employment

LAWENCE LINCK and JAYNE SHOVER, National Society for Crippled Children and Adults, Chicago.

Vocational and economic usefulness are generally considered to be among the ultimate goals of the rehabilitation of the crippled. Selected persons with various disabilities will demon-

strate the type of work suited to their respective abilities. Additional services of sheltered workshops and homebound employment programs will be indicated.

Dynamic Exercises for Lower Extremity Amputees

OTTO EISERT and OWEN TESTER, Veterans Administration Hospital, Brooklyn.

The exhibit illustrates the individual dynamic exercises that were originated in the physical medicine rehabilitation service of Brooklyn Veterans Administration Hospital. Their purpose is to combine the various stump exercises, which previously had been given to strengthen the musculature, decrease sensitivity, coordinate the actions of the muscles of the stump and the rest of the body, increase circulation, maintain flexibility of the joints, and promote muscular tone, into single procedures. Furthermore, the exercises are similar to those movements that the patient uses when actually walking with his prosthesis. The exercises are simple and can be performed by the patient in the clinic or at home with minimum supervision.

Assets and Deficits in Rehabilitation in Chronic Rheumatoid Arthritis

EDWARD W. LOWMAN and PHILIP R. LEE, Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, New York.

The results of two years' study in the rehabilitation of severely disabled patients with rheumatoid arthritis are presented. This includes methods of evaluating and establishing goals, methods of treatment and training, and the place of mechanical and special devices. Factors that are considered assets and indicative of a favorable prognosis and factors that conversely are considered deficits are emphasized. Patients will be used for demonstration, and an exhibit of special mechanical devices designed for arthritic patients will be included.

Early Treatment of Patients with Spinal Cord Injury

DONALD A. COVALT and IRVING S. COOPER, Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, New York.

This exhibit presents the early treatment and management of patients with spinal cord injury during five years of experience with over 400 patients. The combined approach of specialists, including the neurosurgeon, orthopedist, plastic surgeon, internist, urologist, and physiatrist, has been reduced to a simple outline form illustrated with pictures to present the treatment and management of these patients.

Exercising Devices

WILLIAM BIERMAN, Mount Sinai Hospital, New York.

The exhibit shows apparatus to permit passive, assistive, active, and resistive exercises for paralytic and paretic muscles. It includes simple devices activated by pulleys, and weights, springs, ball bearings, and inclined surfaces, to be used by patients at home and in institutions as well as more complicated apparatus activated by electric motors to permit passive movements for use in institutions. These devices were developed to permit frequent application of exercises with a minimum of effort by therapists.

Cellular Energy Mechanism

L. CORSAN REID and HOWARD A. RUSK, New York.

The exhibit is designed to illustrate the steps in energy transfer, as shown in glycolysis and the Krebs citric acid cycle. Industrial examples are used. Diagrams are in color.

Procedures and Goals in Comprehensive Rehabilitation

ROBERT C. DARLING and EDWARD E. GORDON, Institute for the Crippled and Disabled, Columbia Presbyterian Medical Center, New York.

The exhibit portrays the complex problems that must be considered in preparing the severely handicapped patient to take a place of maximum productivity in society. The goals to be considered are illustrated, together with the interrelationships of medical, social adjustment, and vocational services utilized for their achievement. Photographs depict selected features of the activities.

Section on Preventive and Industrial Medicine and Public Health

The representative to the Scientific Exhibit from the Section on Preventive and Industrial Medicine and Public Health is PAUL A. DAVIS, Akron, Ohio.

Forensic Aspects of Neoplastic Diseases, Based on An Analysis of Medicolegal Tumor Necropsies

ALFRED L. SHAPIRO, Brooklyn. From the Office of the Medical Examiner, New York.

An analysis of 375 consecutive medicolegal tumor necropsies in medical examiners' cases is presented. It comprises (1) a presentation of the differential incidence of these neoplasms as contrasted with the tumor series generally encountered in hospital practice; (2) demonstration of the role of unsuspected tumors in sudden deaths; and (3) a critical evaluation of the etiological relationship often claimed between trauma and tumors.

Every Doctor's Office a Cancer Detection Center

ELOISE PARSONS, CAESAR PORTES, MARIE ORTMAYER, ELIZABETH MCGREW, MARION F. MAGALOTTI and F. LEE STONE, Cancer Prevention Center of Chicago, Inc., Chicago.

A complete physical examination reveals the presence of early malignant lesions in about 85% of cases of cancer. There have been about 40,000 apparently healthy people examined at the Cancer Prevention Center of Chicago. Photoroentgens of the chest are exhibited, and statistics on proctoscopic findings, Papanicolaou smear, and breast examinations are shown.

Half of All Cancers Are Accessible to Direct Examination

R. F. KAISER, National Cancer Institute, Bethesda, Md.

This exhibit points out to the general practitioner that half of all cancers involve sites accessible to direct examination, and the incidence of cancer by sex for each of these sites is shown.

Detection and Evaluation of Local Aeroallergens

OREN C. DURHAM, Abbott Laboratories, North Chicago, Ill.

The exhibit presents a demonstration of methods followed and equipment necessary for carrying on local field studies and air tests by the gravity method. In certain areas where ragweed eradication is feasible, the effectiveness of various controlled methods may be assayed by the same techniques used in local surveys. Recognition of pollens and spores is stressed.

Medical Services in Industry

R. C. PAGE and K. R. FOURCHER, Standard Oil Company (N. J.), New York.

Photographs illustrate educative, preventive, and constructive medicine in industry.

The Virus Diagnostic Laboratory

WERNER HENLE, GERTRUDE HENLE, M. MICHAEL SIGEL, T. F. MCNAIR SCOTT and KLAUS HUMMELER, The Children's Hospital of Philadelphia and the University of Pennsylvania School of Medicine, Philadelphia.

The function of the virus diagnostic laboratory is explained by charts and photographs, with examples of (*a*) diagnostic procedures in general; (*b*) epidemiological follow-up (search for

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sources of infection, immune states of a given population, and institution and evaluation of preventive and therapeutic measures); and (c) research toward improvement, adaptation, and development of diagnostic, preventive, and therapeutic measures.

Comparative Graphic Study of Western Equine Virus and St. Louis Virus

James A. Wheeler, Axtell Clinic, Newton, Kan.

The exhibit shows a comparative study of Western equine virus and St. Louis virus. This exhibit shows the reservoir as found in these two separate studies and the vector transmission of the two virus diseases. The object of this exhibit is to show the interesting comparison of the findings of two separate studies in which two different vectors were involved, with the transmission of each virus disease from sources found in nature. In Western equine virus, it was found that assassin bug from rats' nests in pastures contained 50% virulent Western equine virus and the present theory is that the virus may be spread when the young gain their wings in the spring and fly to horses in the pastures, etc. With the proper influx of seasonal mosquitoes, the stage was set for an epidemic, which was found in 1941 to involve 50% of the cases of blood samples in which a serum neutralization test was made for Western virus.

Early Care of Hand Injuries

Joseph L. Posch, American Society for Surgery of the Hand, Detroit.

The exhibit consists of illustrations of the anatomy and physiology involved in the early treatment of injuries to the hand. Proper operating room technique, proper type of incisions, and the necessity of adequate pre- and postoperative care, are emphasized. Illustrated cases are shown.

Occupational Evaluation of Cardiac Patients—Cardiacs Can Work

Leonard J. Goldwater, Lewis H. Bronstein, Herman Bennett, Irving Klein, Beatrice Kresky, and Henry Sampson, Bellevue Hospital, New York.

Methods of evaluating occupational potentialities of cardiac patients have been developed through a teamwork approach. This is exemplified by a Work Classification Unit, which provides the services of a physician, social worker, vocational counsellor, and psychologist. Suitable evaluation of the patient often results in successful placement of unemployed cardiac patients and in the retention in employment of persons who become afflicted with heart disease.

Section on Radiology

The representative to the Scientific Exhibit from the Section on Radiology is Richard H. Chamberlain, Philadelphia.

Emergency Examinations of the Newborn

George Cooper Jr., McLemore Birdsong, and Randolph Bradshaw, University of Virginia School of Medicine, Charlottesville, Va.

The exhibit shows case histories and roentgenograms, illustrating various emergency conditions occurring in the newborn, in which prompt attention may be life-saving.

The Gastric Rugal Pattern

Lawrence A. Davis, Peter K. Knoefel, and Everett L. Pirkey, University of Louisville School of Medicine, Louisville, Ky.

Various factors influencing the gastric rugal pattern are presented. The body type of the patient and the amount and composition of the resting gastric secretion are demonstrated to be of importance as well as the particle size and chemical composition of the opaque medium.

Nephrocalcinosis Associated with Sarcoidosis

Charles N. Davidson, John M. Dennis, Eugene R. McNinch, Webster H. Brown, and James K. V. Willson, University of Maryland School of Medicine and Johns Hopkins School of Medicine, Baltimore.

This is a collection of seven proved cases of sarcoidosis with the unusual manifestations of nephrocalcinosis. In several of the cases there were other tissue calcifications. Roentgen and clinical findings are presented.

Diagnosis of Aorta-Iliac Artery Occlusion

Fay A LeFevre, A. W. Humphries, and V. G. DeWolfe, Cleveland Clinic, Cleveland.

This exhibit summarizes the study of 38 cases of obstruction of the abdominal aorta or iliac artery. The clinical symptoms typical of this syndrome will be outlined. The symptom of hip claudication, generally not recognized, is demonstrated by poster and graph. In 22 of the 38 cases aortography was done. The films, with adequate history of 12 typical cases, are demonstrated together with a model showing the method of aortography as well as a summary of findings in the 38 cases studied.

The Radiological Diagnosis of Thoracic Lesions

C. R. Perryman, Paul R. Noble, and H. A. Kipp, Mercy Hospital, Pittsburgh.

A demonstration is given of interesting thoracic lesions encountered in a busy chest service illustrating the proper place of roentgenograms in the differential diagnosis.

The Portal Venous System—Its Roentgen Anatomy

Francis F. Ruzicka Jr., Guenter Doehner, George Hoffman, and Louis M. Rousselot, St. Vincent's Hospital, New York.

The purpose of this study is to establish a roentgen anatomical basis for the interpretation and evaluation of portograms (portal venograms) made in the living patient, e. g., portograms made either preoperatively or at operation in cases where a portocaval shunt is planned as treatment for portal hypertension. The study is based on 50 cases in which the portal system was visualized radiographically in postmortem material. A barium-water mixture was injected into the superior mesenteric vein or the inferior mesenteric vein of the intact cadaver, and stereoscopic films were made in the anteroposterior position. The several roentgen anatomic patterns of this venous system, together with certain measurements of major veins, are presented. The practical application of this study is emphasized.

Wide-Angle Trifocals for Radiologists

D. Alan Sampson, Ardmore, Pa.

Diagrams, photographs, and drawings are used to illustrate the problem of vision at intermediate distances for the presbyopic radiologist and its solution by means of a special design of wide-angle trifocal eyeglasses. Any older radiologist who requires optical correction for any but the mildest stage of presbyopia will find bifocals unsuitable at usual film-reading distances. Trifocals give correct vision at such intermediate distances but lack sufficient breadth of field or film coverage. The exhibit demonstrates the experimental trifocals with movable components used to derive a satisfactory distribution of the lens components, as well as the satisfactory final design that now can be obtained through ordinary optical sources.

Accessory Roentgen Signs of Coarctation of the Aorta

Melvin M. Figley, University Hospital, Ann Arbor, Mich.

The exhibit consists of original roentgenograms and photographs of roentgenograms of a number of patients with coarctation of the aorta. The anatomic origin of some valuable but little used roentgen signs is explained by the liberal use of angiocardiograms of these patients.

Medical Betatron Installation and Program

JAMES J. NICKSON, J. OVADIA, E. FOCHT, J. S. LAUGHLIN, and G. FERLAZZO, New York.

The exhibit describes details and installation of a 22 MEV betatron, including details of the shielding, laboratory arrangement, and other special facilities. Physical measurements of dose distribution and dosimetry problems in general are presented. The biological program is discussed, with particular reference to the biochemical and differential sensitivity studies. The proposed program of clinical evaluation is presented.

Roentgenologic Diagnosis of Alimentary Tract Abnormalities in Infants and Children

JOHN F. HOLT, EDWARD B. SINGLETON, and FRED J. HODGES, University of Michigan, Ann Arbor, Mich.

Certain alimentary abnormalities in infants and young children are shown. In addition to the common, easily recognized, abnormalities, certain unusual and infrequently encountered situations seen mainly in institutions with large pediatric services have been included. Typical examples of different abnormalities were frequently omitted in favor of atypical and less characteristic cases with the hope that the exhibit would have additional instructive value and prove to be of greater general interest.

Radioactive Gold Gamma-Ray Sources in Radiation Therapy

U. K. HENSCHKE, W. M. MCLELLON, B. H. COLMERY JR., and WILLIAM G. MYERS, Ohio State University College of Medicine, Columbus, Ohio.

The preparation and use of radioactive gold seeds are demonstrated. Radioactive gold seeds have the following advantages: 1. Seeds of any desired strength are instantly available. 2. Beta particles are almost completely eliminated. 3. Protection is simplified; one-half thickness of lead for radon is five half-thicknesses for Au_{198}, and there is no hazardous radioactive gas. 4. No capital investment, special rooms, nor extra personnel are required.

Section on Surgery, General and Abdominal

The representative to the Scientific Exhibit from the Section on Surgery, General and Abdominal, is JOHN H. MULHOLLAND, Dobbs Ferry, N. Y.

Carcinoma of the Stomach—Changes in Surgery from 1940 to 1951

CHARLES H. BROWN, STANLEY O. HOERR, and R. G. PERRYMAN, Cleveland Clinic, Cleveland.

Surgical treatment of gastric carcinoma for the years 1940 to 1945 is presented. The resectability and operability of gastric cancer for the years 1940 through 1951 is shown. Of all patients with gastric carcinoma seen, 57% were operated on in 1940-1945 and 86% in 1950-1951; of all patients with carcinoma, only 25% in 1940-1945 and 49% in 1950-1951 had gastric resections. The changes in surgical attack on gastric cancer in this 12 year period are shown. The increase in operability and resectability will probably result in an increase in curability. While there were 7.1% 5 year survivors in 1940-1945, the present attack on gastricarcinoma will result in approximately 15% 5 year survivors. The importance of biopsy of all lesions is stressed.

Duodenal Intubation in Intestinal Obstruction

JOHN DEVINE JR., Lynchburg, Va., and BEVERLEY R. REYNOLDS, Roosevelt Hospital, New York.

A new instrument for intubating the duodenum is shown, and the technique is demonstrated. The instrument has a flexible tip control that enables the operator to insert the tube into the duodenum. Case histories showing the advantage of prompt, controlled duodenal intubation and rapid intestinal decompression are presented.

Radical Mastectomy with En Bloc, in Continuity, Resection of the Internal Mammary Lymph Node Chain—A New Procedure for Primary Operable Breast Cancer

JEROME A. URBAN, Memorial Hospital, New York.

The lymphatic drainage of the breast extends into two primary lymph node depots—the axillary nodes and the internal mammary lymph node chain. A new operative procedure is presented that removes the primary breast cancer in continuity with both of its primary depots of lymphatic drainage. The operation is practical and has caused no increase in postoperative disability or diminution of function. At present 80 patients have undergone this procedure with one postoperative death from a cerebrovascular accident. Forty-two per cent showed metastases in the internal mammary lymph nodes, 60% had mestatases to axillary nodes, 34% had no node involvement, while 6% showed only internal mammary lymph node involvement. All patients recovered from surgery with a full range of motion of the upper extremity and returned to their former activities.

Noncalculous Obstructions of the Major Bile Ducts

WILLARD BARTLETT JR., St. Louis University School of Medicine, St. Louis.

Data from cases of malignant and nonmalignant obstructing lesions at various levels are presented in text and by color transparencies of photographs of the operative field, gross specimens, and photomicrographs, together with tabulation of statistical data from the literature as to their incidence. The data on six adults who had not been operated on previously with benign fibrous stenosis of the extrahepatic ducts (obliterative cholangitis) have been collected. The importance of recognition and prompt inspection of an obstructing lesion and of avoiding an improper choice of operative procedure when such a lesion is unexpectedly encountered at exploration is stressed.

Coarctation of the Aorta—Diagnosis and Surgical Treatment

O. T. CLAGETT, E. A. HINES, H. B. BURCHELL, D. G. PUGH, and E. H. WOOD, Mayo Clinic, Rochester, Minn.

Coarctation of the aorta is a congenital vascular anomaly that should be suspected in any case of hypertension. Its recognition is important because surgical treatment is usually successful. This exhibit consists of (1) models, diagrams, and photographs showing the anomaly and its variations, the not infrequent associated defects, and the complications; (2) the usual clinical features, roentgenologic, and physiological studies related to the diagnosis, and (3) models demonstrating the surgical technique of resection of the involved aortic segment. The results in 124 operated cases from the clinical and laboratory viewpoint are presented.

Cardiac Arrest—Etiology, Prevention and Management with a Statistical Analysis of 1,200 Cases

J. WILLIAM HINTON, L. CORSAN REID, and HUGH E. STEPHENSON JR., New York University Post-Graduate Medical School, New York.

This exhibit presents the major factors of interest resulting from a study of 1,200 cases of cardiac arrest gathered from all parts of the world during the last three years, as well as a personal experience of 40 cases. A practical hospital plan of action is presented, including use of a mobile cardiac resuscitation unit (with a pulmonary resuscitator, defribillator, etc.) and a portable electrical defibrillator. Pertinent data from a one year study in the animal laboratory are included.

Thyroid Tumors

LEO M. ZIMMERMAN and DAVID H. WAGNER, Chicago Medical School and Michael Reese Hospital, Chicago.

The exhibit presents a study of the thyroid material of the Michael Reese Hospital plus statistical data regarding the incidence of adenomas and carcinomas of the thyroid gland, their relationship to nodular goiter, and mortality rates from

thyroid carcinoma. These studies fail to support the prevailing concepts as to the relation of nodular goiter to carcinoma, and place the actual incidence of cancer in a more realistic perspective.

Portal Hypertension and Its Treatment with Special Reference to Cirrhosis

ARTHUR H. BLAKEMORE, HUGH FITZPATRICK, and DAVID V. HABIF, the Presbyterian Hospital, New York.

Data are presented portraying the types of portal hypertension, the incidence of the disease, and the differential diagnosis. Portacaval shunting is portrayed as a rational method for the relief of hemorrhage and the definitive treatment of portal hypertension as indicated by physiological observations before and after operation correlated with long-term follow-up observations in cases in which operation was done. Data correlating common liver function tests with operative risk and follow-up behavior are included. A regimen for the management and evaluation of ascites in given cases of cirrhosis is presented with results.

Trans-Abdominal Gastroscopy and Coloscopy

STANLEY O. HOERR and RUPERT B. TURNBULL JR., Cleveland Clinic, Cleveland.

In spite of accurate preoperative roentgenograms, occasionally the surgeon is unable to find the abnormality which he expected in the stomach or colon. Some lesions are not easily palpated and cannot be seen externally. A sterilized standard sigmoidoscope available at the time of operation permits a direct interior view of selected portions of the gastrointestinal tract at the time of laparotomy. In this way, such lesions as polyps, ulcers, and diffuse inflammation can be accurately diagnosed. The exhibit illustrates the uses and techniques of the procedure.

Repair of Diaphragmatic Hernias

CONRAD R. LAM and LEO J. KENNEY, Henry Ford Hospital, Detroit.

The exhibit outlines the pathological anatomical features, cardinal clinical signs, and methods of operative repair of various kinds of hernias through the diaphragm. The several types considered are those of congenital origin encountered in infancy, esophageal hiatus hernias, traumatic hernias, and rare hernias that pass through the foramen of Morgagni or that of Bochdalek. Operative maneuvers will be demonstrated on a model of the diaphragm. Special attention will be given to the problems and differences of opinion regarding the repair of esophageal hiatus hernias.

Acute Massive Peptic Ulcer Hemorrhage

H. T. CASWELL, W. EMORY BURNETT, G. P. ROSEMOND, and V. W. LAUBY, Temple University School of Medicine and Hospital, Philadelphia.

The problem of acute massive ulcer hemorrhage is one of common concern to both internists and surgeons. It has been particularly difficult to choose which patient should have surgical treatment and which one should be continued under medical management. In this exhibit the vital role of penetrating ulcer in intractable hemorrhage requiring surgical treatment is portrayed. Clinical methods of making the diagnosis of penetrating ulcer are presented from an experience with 200 carefully selected cases of acute massive peptic ulcer hemorrhage. The need for operating on the patient with recurrent massive hemorrhage is also brought out. A mimeographed abstract of the material will be available.

Embolectomy

LESTER BLUM, Mount Sinai Hospital, New York.

Until recently, arterial embolism has been considered a late complication of progressive heart disease. With the improved prognosis in rheumatic disease, there is a greater incentive to obtain the best possible results. It is the responsibility of the medical man to recognize promptly this condition and jointly with the surgeon to prevent loss of function or part. The selection of cases, the role of anticoagulants and vasodilators, and the principles of operative technique are all presented. Emphasis is placed on the avoidance of delay.

Intrahepatic Distribution of the Bile Ducts and Hepatic Arteries

JOHN E. HEALEY JR. and PAUL C. SCHROY, Daniel Baugh Institute of Anatomy, Jefferson Medical College, Philadelphia.

This exhibit is based on findings in the examination of the biliary and vascular channels of 150 adult human livers. These systems were injected with vinyl acetate and the paranchyma corroded with hydrochloric acid. The casts were studied to determine the mode of branching and the intrahepatic distribution of the arteries and ducts; a simple directional nomenclature designates their main branches. The branching of both systems was found to be segmental in character and supplied or drained very definite parts of the liver, as is demonstrated by means of illustrations, photographs, roentgenograms, and actual casts of these specimens.

Facial and Body Restorations

THOMAS E. KNOX and MERVIN C. CLEAVER, Veterans Administration, Washington, D. C.

This exhibit shows vinyl plastic facial prosthesis for restoration of missing or defective nose, ear, or cheek areas; vinyl plastic artificial cosmetic glove and hand prostheses for full and partial hand amputees; tantalum and acrylic plates restoring skull injuries; foamed vinyl breast restorations for use following mastectomy; vinyl pads and prostheses for rebuilding leg defects; and other plastic prostheses, implants, and shields for various surgical and radiological treatment conditions; casts; models; technical photographs and photographs of patient wearers.

Surgical Treatment of Ulcerative Colitis

RICHARD B. CATTELL and BENTLEY P. COLCOCK, The Lahey Clinic, Boston.

The clinical experiences obtained in the surgical management of 400 patients with ulcerative colitis are presented. The indications for operative intervention are listed and the standard operative procedures demonstrated by drawings. Colored plates of operative specimens show the pathological process. Illustrative cases demonstrate present management. Clinical data are tabulated.

Pulmonary Valvuloplasty Under Direct Vision—With the Aid of a Mechanical Heart

F. D. DODRILL, ROBERT A. GERISCH, EDWARD HILL, and ARAN S. JOHNSON, Detroit.

The mechanical heart, which can be used to bypass either the right or left side of the heart, is exhibited, with charts and photographs of the pulmonary valve in living patients. The patients, in whom the pulmonary valve has been exposed, have had congenital pulmonary stenosis with an intact interventricular septum.

Conservative Amputations for Gangrene Due to Arteriosclerosis and Diabetes

SAMUEL SILBERT and HENRY HAIMOVICI, Montefiore Hospital, New York.

The indications, technique, advantages, and clinical results of midleg and transmetatarsal amputations are presented.

The Management of Remaining Common Duct Stones Without Secondary Operations

R. Russell Best, John A. Rasmussen, and Carlyle E. Wilson, University of Nebraska College of Medicine, Omaha.

Frequently cholangiography demonstrates stones in the biliary tract after choledochostomy. This exhibit depicts a method of management of these biliary stones without requiring secondary operation. It shows by in vitro and in vivo studies the solvent action of ether and chloroform alone and in combination with other agents on biliary stones. The tissue reaction to these agents is demonstrated by photomicrographs. A specific program utilizing these substances, with a simplified three day biliary flush routine, is presented. X-ray cholangiograms are shown.

Hypotensive Techniques in General Surgery

Max S. Sadove, Gordon M. Wyant, and Gwen Gleave, University of Illinois College of Medicine, Chicago.

The exhibit shows the physiological basis of hypotensive anesthesia as well as practical application of the method. The advantages and disadvantages and indications and contraindications of this method as well as the prerequisites for the successful application of this method are shown. The exhibit surveys the various ways in which hypotension for surgical procedures may be induced and shows possible complications of this method. Electrocardiographic, electroencephalographic, and plethysmographic tracings are included.

Acute Cholecystitis

E. Lee Strohl, Warren H. Cole, and W. G. Diffenbaugh, University of Illinois College of Medicine and St. Luke's Hospital, Chicago.

A series of wax models and colored drawings demonstrate the pathological changes that occur in acute calculous cholecystitis. The clinical findings are enumerated and the complications emphasized. The results of treatment are discussed.

Pathogenesis of Ascites in Cirrhosis of the Liver

John L. Madden, John M. Lore, and Frank P. Gerold, St. Clare's Hospital, New York.

The exhibit presents a study of the pathogenesis of ascites in cirrhosis of the liver. Livers from normal persons, patients in chronic congestive failure, patients with metastatic carcinoma, and patients with cirrhosis with and without ascites were injected with colored solutions (portal vein, yellow; hepatic veins, blue) and were then corroded with hydrochloric acid. Photographs after corrosion depict the intrahepatic circulation in the normal liver and its disturbances in each of the pathological liver specimens. It is postulated that the cause of ascites in cirrhosis of the liver is primarily intrahepatic blockage of the systemic venous bed and not primarily a blockage of the portal bed.

Continuous Enteral Feeding

James J. Griffiths, Donald W. Smith, John Elliott, and George T. Lewis, Medical Research Foundation of Dade County, Miami, Fla.

The exhibit includes theoretical consideration of nutritional requirements of sick patients. Results of feeding in cases of burns, fractures and fistulas, and preoperatively and postoperatively are shown diagrammatically, as well as data on the essentiality of fat in the diet.

Lumbar Sympathectomy in Treatment of Peripheral Vascular Diseases

Louis T. Palumbo, Lloyd F. Quirin, and Russell W. Conklin, Veterans Administration Center, Des Moines, Iowa.

The exhibit evaluates the results of lumbar sympathectomy in 159 male patients, on whom 221 operations were performed for a great variety of peripheral vascular diseases of the lower extremity. Schematic drawings of the neuroanatomy and photographs of postoperative sweating patterns are shown, as well as actual color transparency photographs of the operation. The over-all results were favorable in 93% of the cases; the morbidity and mortality rates were both low considering the age and general condition of the patients. The method portrayed permits a more conservative attitude toward amputation; neither undesirable physiological sequelae nor physical disability will result.

Section on Urology

The section exhibit committee consists of Roger W. Barnes, Los Angeles, Chairman; George H. Ewell, Madison, Wis., and Norris J. Heckel, Chicago.

The Role of the Urine in Vesical Neoplasm

Donald F. McDonald, University of Washington School of Medicine, Seattle.

The exhibit depicts the problem of how vesical neoplasms develop and the question of whether the clinical observation that bladder tumors sometimes progress after deviation of the urine can be confirmed clinically. The artist's conception of cystoscopic development of experimental tumors in dog is shown. Failure of an isolated pouch of the bladder with intact blood supply to develop tumors while part of bladder exposed to urine containing β-naphthylamine excretion products develops tumors is demonstrated. Photomicrographs and photographs show bladder tumors continuing to grow one to three months after deviation of the urine. A chart of structural formulas of known bladder carcinogens, tables showing rate of appearance of tumors, and quantity of carcinogen are also shown.

Effect of Antibiotics on Human Spermatozoa

Harry Seneca and Diane Ides, Columbia University College of Physicians and Surgeons, New York.

The exhibit of charts, tables, and diagrams shows the effect of various antibiotics on human spermatozoa.

Urine and the Ground Substance

Joseph Seifter, Wyeth Institute of Applied Biochemistry, Philadelphia, Arthur J. Butt, Butt Medical Foundation, Pensacola, Fla., and Ernst A. Hauser, Massachusetts Institute of Technology, Cambridge, Mass.

The exhibit presents a study of hyaluronidase, adrenal function, foreign hyaluronate, and infection on the colloidal properties of urine.

Chemotherapy of Genitourinary Tuberculosis

John K. Lattimer, Louis L. Spivak, and Frank J. Lovelock, Veterans Administration Hospital, Bronx, N. Y.

This exhibit is a summary of the results with chemotherapy in 458 cases of renal tuberculosis treated by the Veterans Administration research group over a period of six years. Factors which favor or interfere with successful treatment are shown. It was concluded that any lesion large enough to be obvious in the pyelogram would not be made negative for tubercle bacilli by chemotherapy alone; excisional therapy was necessary. Treatment used was streptomycin, *p*-aminosalicylic, or isoniazid.

Acute Anuria

Samuel A. Levinson and Max Berg, University of Illinois College of Medicine, Chicago.

The exhibit includes a summary of recent advances in knowledge of the pathogenesis of acute anuria, with charts and photomicrographs illustrating experimental work employing Clostridium perfringens toxin. The recent advances in the treatment of anuria will be presented, with emphasis on the conservative methods based on the clinical state, the significant findings for the maintenance of electrolyte and fluid balance, and the reduction of the catabolic rate of the body. The indications and contraindications for employment of peritoneal lavage and the use of the artificial kidney are illustrated.

Newer Diagnostic and Operative Procedures in Urology

J. SYDNEY RITTER, ALFRED A. JOHNSON, and HENRY RITTER JR., New York Polyclinic Medical School and Hospital, New York.

This exhibit presents further advances in use of pneumoroentgenography to visualize various pathological lesions of the urogenital tract. Aortography is demonstrated, and films are presented. Furthermore, operative approaches for the removal of pheochromocytomas and other kidney lesions are depicted. A suggested technique for renal denervation and suspension is presented.

Studies Showing the Effects of Banthine® and Pro-Banthine® on the Urinary Tract

JOHN W. DRAPER, STEWART WOLF, HOWARD KRAVITZ, JACK MURPHY, and ADRIAN ZORGNIOTTI, Bellevue Hospital, New York.

The exhibit shows (1) a series of graphs and charts designed to illustrate the results obtained; (2) an investigation of the pharmacological effect of banthine on the urinary tract; and (3) the beneficial effect of the drug in several pathological states.

MISCELLANEOUS EXHIBITS

The Education of Psychiatrists

N. V. BOLIN, G. L. HARRINGTON, and B. E. BOOTHE, Veterans Administration Hospital, Topeka, Kan.

The exhibit brings out the objectives of psychiatric education in relation to its content, including the clinical experiences of psychiatric residents, the psychiatric knowledge that has been organized in the program at the Topeka Veterans Administration Hospital for teaching purposes, and the variety of methods that have been developed in psychiatric teaching. The exhibit concludes with a presentation of the representative skills expected from a graduate of the program, together with an indication of characteristic positions that are filled by the psychiatrists after they complete their residency work.

The Anatomy of Veins

OSCAR V. BATSON, University of Pennsylvania, The Graduate School of Medicine, Philadelphia.

The veins of the human body, especially those of the head and neck, the vertebral column, and in bone are presented in a newly prepared series of corrosion specimens. A newly devised acrylic mass largely eliminates the defects of the usual corrosion specimens. This is the first demonstration of specimens prepared with this mass. The mass is injected into the anatomic part, where it congeals. Soft tissues are removed by maceration. A cast of the venous tree remains. This demonstration displays the anatomical features that permit such ligations as those of the inferior vena cava or of both jugular veins. The rationale of the intramedullary route for transfusion and phlebography becomes clear.

Public Service Activities

ROBERT D. POTTER and HERBERT S. OGDEN, Medical Society of the County of New York, New York.

The exhibit illustrates a physician's emergency service, with 24 hour emergency medical call service; a specialist referral panel; national TV program—"Here's to Your Health"; medical advisory panel for New York State Supreme Court; workmen's compensation advisory board; *New York Medicine*, the official magazine of the society; and an indoctrination program for new members.

These Towns Add Fluoride to Their Water Supplies

THOMAS L. HAGAN, Division of Dental Public Health, U. S. Public Health Service, Washington, D. C.

The exhibit shows the names, locations, and total population of the more than 400 communities now adding fluoride to their water supplies. The number of towns in each state planning to add fluoride and information on the more than 8,800 communities using water containing natural fluoride are also shown. A miniature set showing how fluoride is added to water and the compounds commonly used are included. One of the tests used in determining the fluoride content of water is illustrated, and a mechanism operated by push buttons shows just how the various types of compounds may be added to water.

Educational Activities

WALTER E. BATCHELDER and H. PRATHER SAUNDERS, American College of Surgeons, Chicago.

This exhibit describes the educational activities of the American College of Surgeons.

Blue Shield Medical Care Plans

KENNETH E. TRIM, ROBERT L. KLICK, and MARGARET SHERBERT, Blue Shield Medical Care Plans, Chicago.

Graphs and charts present the story of enrollment growth, financial status, and extent of physician participation. Of primary interest is the record of frequency and cost of medical and surgical services, identified by type of procedure and classification of service.

Medical Education

DONALD G. ANDERSON, FRANCIS R. MANLOVE, F. H. ARESTAD, E. H. LEVEROOS, and WARREN R. VON EHREN, Council on Medical Education and Hospitals, American Medical Association, Chicago.

The exhibit displays data on medical education, registration and approval of hospitals, training of interns and resident physicians, technical hospital personnel, and medical licensure. Data are included pertaining to lists of approved medical schools, hospitals approved for internships and residencies, and approved technical schools.

The Adequate Low-Calorie Diet with Adaptations

CLARA ZEMPEL, American Dietetic Association, Chicago.

The exhibit features an adequate low-calorie diet with variations which change it to a low-sodium, low-fat, and diabetic diet. Food models illustrating the low calorie diet comprise a part of the exhibit.

Distribution of Physicians by Medical Service Areas

FRANK G. DICKINSON and CHARLES E. BRADLEY, Bureau of Medical Economic Research, American Medical Association, Chicago.

The exhibit includes (1) a map of United States showing (*a*) state and county boundaries, (*b*) medical service area boundaries, (*c*) medical service area prime-primary centers (83), (*d*) medical service area primary centers (1,052-88), and (*e*) about 14,000 dots for secondary centers; (2) maps of the United States showing medical service areas with 7 zipatone patterns of (*a*) buying power per capita of each 757 medical service area areas, (*b*) population per square mile of each 757 areas and (*c*) population per physician in each 757 areas; (3) detailed data, e. g., age distribution, on 75 areas (highest 10% of 757) with the most persons per physician and on 75 areas (lowest 10%) with the fewest persons per physician.

Developments in Medical Service Programs

GEORGE W. COOLEY, Council on Medical Service, American Medical Association, Chicago.

The exhibit shows "A Total Medical Service Program," around which are listed the organized plans or programs which make up this total, such as plans for emergency calls, indigent care, multiphasic screening, regional hospitalization, cancer detection, and tuberculosis case finding. Maps show the geographical distribution of such activities as are listed above and a description of the activity, its purpose, and relationship to the "total program."

MOTION PICTURES

The motion picture program will be shown in the Bowman Room, Biltmore Hotel. Most of the films will be shown once each day throughout the week, with the authors present in many cases to discuss the films.

The program has been arranged by the Committee on Medical Motion Pictures, of which RALPH P. CREER is Secretary.

Ocular Biomicroscopy—Technique and Interpretation

MILTON E. BERLINER and GOODWIN N. BREININ, New York.

The motion picture demonstrates the living histology of the eye wherein the conjunctiva, cornea, lens, vitreous and retina are shown in health and disease. Six methods of biomicroscopic examination are analyzed ranging from diffuse illumination through sclerotic scatter to specular reflection. Using unique methods of illustration, the film depicts physical biomicroscopic phenomena of a most dramatic order.

The Anatomy and Pathology of the Ear Drum—Cinematography of the Drum and Middle Ear Through the Ear Speculum

PAUL H. HOLINGER, KENNETH C. JOHNSTON, and RICHARD A. BUCKINGHAM, University of Illinois College of Medicine, Chicago.

The anatomy and pathology of the ear drum are shown as seen through the ear speculum and the otoscope. The normal drum membrane is first demonstrated, and then various inflammatory processes, perforations, and other drum pictures are shown. In the absence of the drum as in a large perforation, the contents of the middle ear are visualized.

Primary Hyperparathyroidism

JOEL W. BAKER and RANDOLPH P. PILLOW, The Mason Clinic, Seattle.

The manifestations of hyperparathyroidism are described and illustrated. The biochemical abnormalities are also presented. Numerous roentgenograms reveal various types of lesions produced by the disease. The clinical improvement obtained in one patient is illustrated 10 days after her operation.

Needle Biopsy of Liver and Spleen

MATTHEW BLOCK and JEAN CRUNELLE, University of Chicago, Chicago.

The film presents an explanation of the history, the indications, the contraindications, and the dangers inherent in needle biopsy of the liver and spleen, with particular reference to its application to clinical medicine. Emphasis is also placed on the type of information which may be obtained from needle biopsy of liver and spleen, as well as on the situations in which useful information is likely not to be obtained. The actual procedure is demonstrated utilizing two patients, one for a transabdominal and the other for a transthoracic biopsy. Discussion by author.

Radical Pelvic Evisceration and Bilateral Groin Dissection for Pelvic Cancer

GEORGE T. PACK and THEODORE R. MILLER, New York.

This film shows the surgical procedure performed in attempt to cure a 46-year-old woman with a cancer involving the rectovaginal septum, anterior wall of vagina, base of urinary bladder, and metastases bilaterally to inguinal lymph nodes. The patient is shown six months postoperatively.

Operative Cholangiography

N. FREDERICK HICKEN and A. J. MCALLISTER, University of Utah, Salt Lake City.

The authors' technique of operative and postoperative cholangiography is described, with illustrations of operating room arrangements and surgical technique. A series of roentgenograms is presented, including cholangiograms showing normal and abnormal gallbladders. No special instruments are necessary in this technique, which is valuable mainly to avoid overlooking calculi in the hepatic and common bile ducts. The errors that may be made in performing this procedure are enumerated in detail, with suggestions as to how best to avoid them.

Pneumonectomy

EVARTS A. GRAHAM, Barnes Hospital, St. Louis.

Pneumonectomy is performed on a 7-year-old boy who had universal bronchiectasis of the left lung for about five years due to pneumonia followed by empyema. The boy is shown postoperatively playing with other children as well as a normal child.

Resection of a Congenital Diverticulum of the Left Ventricle

WILLIS J. POTTS and ARTHUR DE BOER, The Children's Memorial Hospital, Chicago.

This motion picture presents an 11-year-old boy with a congenital diverticulum of the left ventricle. The diverticulum pushed its way in front of the diaphragm and presented itself as a pulsating mass in the epigastrium between the xiphoid and the umbilicus. The film shows the surgical procedure of resecting this diverticulum.

Surgical Repair of Direct Inguinal Hernia with Rectus Sheath Graft

PHILIP THOREK, Chicago.

This film demonstrates in detail the technique for repair of a direct inguinal hernia utilizing a pedicled anterior rectus sheath graft as described originally by Halsted. Numerous anatomic drawings have been used to amplify the operative sequences and descriptive titles. Discussion by author.

Sciatic Pain and the Intervertebral Disc

BUREAU OF MEDICINE and SURGERY, United States Navy.

The film begins with a clear demonstration in a fresh specimen of the function of the disc. The various parts of the disc are described, and the pressure and distortions are visualized. The relations of these structures to the nerve roots of the cauda equina are shown. A proper examination of the patient is then made, which includes a general physical examination, a neurological examination, and appropriate x-ray pictures of the spine. The classical symptoms and signs are demonstrated, and myelography is also shown by means of animation. Then the two types of treatment, conservative and operative, are shown.

Some Aspects of Accessible Cancers—Skin

SIR STANFORD CADE, MALCOLM DONALDSON, and C. F. STEBBING, British Ministry of Health.

The film illustrates methods of treatment of accessible cancers of the skin, with emphasis on actual results in terms of added years of normal and useful life rather than any particular method.

Dermatologic Office Procedures for the General Practitioner

GERALD M. FRUMESS, EGBERT J. HENSCHEL, and HENRY M. LEWIS, Denver.

The film shows procedures that the general practitioner may do in his office practice. Electrosurgical and surgical removal of benign skin tumors, methods of biopsy, the use of solid carbon dioxide, patch testing, application of Unna's boot, and similar procedures will be included. Discussion by author.

Chemotherapy in the Treatment of Tuberculosis

H. CORWIN HINSHAW, Stanford University School of Medicine, San Francisco.

This film shows what can be accomplished frequently for tuberculosis patients when hospital care, together with antibacterial drug therapy, pulmonary collapse and surgical resection are all brought to bear upon the problem, when necessary.

V
19

Grand Central Palace, N. Y. C.

the A. M. A. Technical Exposition

Three floors of the Grand Central Palace—comprising about 70,000 square feet of space—are devoted to the displays of more than 370 exhibiting firms, working in cooperation with today's requirements of medicine and surgery.

This A. M. A. Technical Exposition can be depended upon for a representative showing of the latest, accepted developments in the accouterments of modern practice. It stands out as an important educational feature of the Session—an encyclopedia of new ideas, new services, new technics and authoritative information about the products with which you work.

The arrangement of the technical exhibits on the three floors, with the Scientific Exhibition immediately above, provides a compactness that is most convenient. On each floor are rare opportunities for you to acquire usable information on the pressing problems of practice. Elevators and stairs furnish access to all departments. Physicians' Registration is located on the first floor. Here, too, are the various service desks: transportation, information bureau, etc. The second floor has registration tables for fraternal and alumni organizations; while on the third floor, a comfortable lounge has been provided for your relaxation.

All attending physicians may, therefore, spend several profitable hours each day in reviewing the many diagnostic helps, up-to-date medical books, achievements of pharmaceutical and food manufacturers, newer surgical instruments and other efficient equipment which make up the Exposition. At each booth are qualified men and women—physicians, technical experts, engineers, laboratory personnel, etc.—able to discuss the items with you.

The Technical Exposition officially opens at 12 noon Monday, June 1, but you will find most exhibitors ready to meet and serve you as early as 8:30 a. m. on this and every morning of the Session. Closing time each day is 5:30 p. m., except Friday, June 5, when the Exposition closes at 12 noon. A cordial welcome awaits all physicians. Following are brief descriptive items giving a preview of most of the exhibits.

THOS. R. GARDINER
Business Manager and Director of Technical Exhibits.

BOOKS

American Diabetes Association
Booth S-15

Interest at booth S-15 centers on *Diabetes*, the new, official publication of the American Diabetes Association which contains important information about the nature, diagnosis, and treatment of diabetes and its complications. Other attractions are *Proceedings* of the American Diabetes Association, published annually for ten years (1940-50); and the well-known magazine for the diabetic patient, *A. D. A. Forecast*.

The American Journal of Medicine
Booth V-11

The American Journal of Medicine presents *The Green Journal*. Representatives at the exhibit will tell you that six seminars on blood coagulation appeared in the first half of the year and are to be followed by six seminars on neuromuscular physiology. A recent symposium on drug addiction, together with reprints of the seminars on gastrointestinal physiology and congenital heart disease, and a Five Year Index of the Journal are displayed.

American Medical Association
Booth N-2

An invitation is extended to look over the display of A. M. A. publications for the medical profession and the general public. You probably read *THE JOURNAL A. M. A.* regularly, but here's an opportunity to examine copies of the nine special journals—to appraise their value in keeping you up to date in your specialty. Take a few minutes to leaf through the pamphlets of the Bureau of Health Education to become better acquainted with the wide variety of authoritative health information available to your patients and the general public. Register for a sample copy of *TODAY'S HEALTH*, the magazine recommended for your reception room. Before you leave the booth, check over your listing in the *AMERICAN MEDICAL DIRECTORY* and give the attendant a record of any changes to be made in your data in the next edition, tentatively scheduled for publication during 1954.

Appleton-Century-Crofts, Inc.
Booth G-9

In booth G-9, Appleton offers for examination its complete list as well as proofs of some interesting new titles such as the 1953 edition of Holt's *Pediatrics*; the new *Thoracic Surgery and Related Pathology* by Lindskog and Liebow; the new *Peptic Ulcer* by Smith and Rivers; and the new *Immunity, Hypersensitivity and Serology* by Sidney Raffel. Other new titles in preparation are to be announced at the exhibit.

Association of American University Presses
Booth O-3

The Association of American University Presses has arranged a cooperative exhibit of medical and other non-fiction books published by its members for your enjoyment. University press books are noted for their quality of content and editorial work.

The Blakiston Company
Booth A-23

Booth A-23 presents daily prizes of Blakiston books available to doctors who register at the exhibit. The Medical Book Guild is featured. New books on display include: *The Roots of Psychotherapy* (Whitaker and Malone); *Conference on Drug Addiction Among Adolescents*; Bernstine and Rakoff's *Vaginal Infections*; New Editions of Morris' *Human Anatomy*; Mellet's *Ophthalmic Surgery*; Krieg's *Functional Neuroanatomy*; Hewet's *Anesthesia*; and Bourne and William's *Recent Advances in Obstetrics and Gynecology*.

F. A. Davis Company
Booth T-11

The new Loose-Leaf *Cyclopedia of Medicine, Surgery and Specialties* was just completed last year. This outstanding work and the first annual revision, now in preparation, may be seen in booth T-11. Many textbooks are also on display, including Judovich & Bates, *Pain Syndromes*; Murphy, *Medical Emergencies*; Stroud, *Cardiovascular Disease*; Lederer, *Diseases of the Ear, Nose and Throat*; and Pillmore, *Clinical Radiology*.

Encyclopaedia Britannica, Inc.
Booth I-28

Encyclopaedia Britannica announces the release of the 1953 edition, representing an investment of over 4 million dollars. This is said to be the biggest revision of *Encyclopaedia Britannica* in over a quarter of a century. *Britannica* in several bindings with *Yearbook* and other services and accessories are available for inspection at the booth.

Grune & Stratton, Inc.
Booth Q-7

In addition to many outstanding books for the general practitioner, booth Q-7 (third-floor, next to stairs to the scientific exhibits) displays Goldman's *Fundamentals of Clinical Cancer*. Goldman emphasizes the practical details of diagnosis and treatment of early cancer—the stage when the practitioner sees the patient. Bellak's *Psychology of Physical Illness*, another highlight, details the practical psychologic implications of primary somatic disturbance in terms of specific illnesses.

Paul B. Hoeber, Inc.
Booth B-13

This year the Hoebet-Harper display contains more important new books for the general practitioner than ever before. Be sure to see *Modern Treatment* edited by Austin Smith and Paul L. Wermer with 53 authors. Of equal interest are Stewart's *Cardiac Therapy*; Cantor's *Ambulatory Proctology* (new edition); and Kyser's *Therapeutics in Internal Medicine* (new edition). For the specialist there are many new major monographs such as Palmer's *Esophagus and Its Diseases*; Adams, Denny-Brown and Pearson's *Diseases of Muscle*; Homburger and Fishman's *Physiopathology of Cancer*; Coley and Higinbotham's *Tumors of Bone*; Luisada's *The Heart Beat*; Moseley's *Shoulder Lesions*; Paschkis, Rakoff and Cantarow's *Endocrinology*; Dernet's *Psychology of the Tuberculous*; and Wittkower's *Emotional Factors in Skin Disease*.

Hospital Topics
Booth H-4

Your photograph will be taken and delivered to you in less than a minute as a complimentary souvenir at the *Hospital Topics* booth. You're in the center of the news picture when you read *Hospital Topics*. Medical meetings as well as hospital conventions are reported accurately, briefly and pictorially right after they've been held. Ask to see the Operating Room Section edited with the cooperation of Dr. Carl Walter and Dorothy Wysocki, both of the surgical staff of Peter Bent Brigham Hospital, Boston.

Lea & Febiger
Booth A-17

The Lea & Febiger exhibit features these new books and new editions: Herbut, *Gynecological and Obstetrical Pathology*; Delario, *Roentgen, Radium and Radioisotope Therapy*; Epstein and Davidoff, *Atlas of Skull Roentgenograms*; Lewin, *The Knee and Related Structures*; Herbut, *Urological Pathology* (2 vols.); Portis, *Diseases of the Digestive System*; Taylor, *Manual of Gynecology*; Hollander, *Comroe's Arthritis*; Goldberger, *Unipolar Lead Electrocardiography and Vectorcardiography*; Collins, *Anesthesiology*; Ritvo and Shauffer, *Gastrointestinal X-Ray Diagnosis*; Joslin, *Treatment of Diabetes Mellitus*; and many other books of current clinical importance.

Life and Health
Booth L-25

This national health journal is exhibited as an ideal reception-room magazine for your office, whether you are in general practice or a specialty. *Life and Health* offers the patient ethical information on health. Its tips on child care and menu planning and articles on common diseases may save you valuable time in explaining these sundry complaints of the inquisitive patient. A free copy of *Life and Health* is waiting for you at the booth. Ask about the new subscription plan, available to all physicians.

J. B. Lippincott Company
Booth B-10

J. B. Lippincott Company presents, for your approval, a display of professional books and journals geared to the latest, important trends in current medicine and surgery. These publications, written and edited by men active in clinical fields and teaching, are a continuation of more than 100 years of traditionally significant publishing.

Little, Brown and Co.
Booth A-27

Little, Brown and Company, publishers of good books since 1837, has its first exhibit of medical titles at this 1953 A. M. A. Annual Session. On display are: *Epilepsy And The Functional Anatomy Of The Human Brain*, a new book by Drs. Penfield and Jasper of McGill University Neurological Institute; Jolles' *X-Ray Sieve Therapy In Cancer; The Normal Child, Problems Of The First Three Years And Their Treatment* by Ronald S. Illingworth; and a Ciba Foundation Endocrinology Series volume entitled *Bioassay Of Anterior Pituitary And Adrenocortical Hormones*.

The Macmillan Company
Booth A-20

The Macmillan exhibit features a wide variety of books of interest to the physician and his guests. Your special attention is called to the new and enlarged second edition of *Biochemistry of Disease*, revised by Dr. Oscar Bodansky; Maingot's *The Management of Abdominal Operations*; and the latest of the *Cornell Conferences on Therapy*, Volume VI.

Josiah Macy, Jr. Foundation
Booth U-19

The latest published transactions of Macy Conferences on a wide range of topics in the fields of medicine and health are displayed here. These publications are reports of informal multi-professional discussions combining research progress, new methods and theories. Representatives at the exhibit welcome an opportunity to discuss this new type of medical literature with you.

McGraw-Hill Book Company, Inc.
Booth J-9

New books covering a wide field of interest are offered for your examination by McGraw-Hill. Special attention is directed to several books in pediatrics, such as, Hughes' *Pediatrics in General Practice* and Slobody's *Survey of Clinical Pediatrics*. Other features are: Arruga's *Ocular Surgery*; Houssay's *Human Physiology*; Leavell and Clark's *Textbook of Preventive Medicine*; and Osborn's *Psychiatry and Medicine*.

The C. V. Mosby Company
Booths B-5; T-22

At either C. V. Mosby booth, B-5 or T-22, you will find the latest in medical literature. Among some of the recent fall volumes on display are: Hansel, *Clinical Allergy*; Sadler, *Practice of Psychiatry*; Ackerman, *Surgical Pathology*; Jensen, *Modern Concepts in Medicine*; Horsley-Bigger, *Operative Surgery*; Moseley, *Textbook of Surgery*; Willis, *Spread of Tumors in the Human Body*; and Marshall-Perry, *Diseases of the Chest*.

Oxford University Press, Inc.
Booth K-34

Bibliophiles have debated endlessly the question of whether the first book published by Oxford University Press was printed in 1468 or 1478. Regardless of the date, practical medicine received its share of attention in the early publications of Oxford; and for many years medical volumes have constituted a distinguished part of Oxford's list. In booth K-34 you may browse among volumes old and new, including: Schnitker, *Congenital Anomalies of the Heart*; Wright, *Applied Physiology*, New Ninth Edition; Baddow, *Biological Hazards of Atomic Energy*; Bach, *Metabolism of Protein Constituents*; Smith, *The Kidney; The Oxford Loose-Leaf Medicine*, Fifteen Volumes; and Singer, *Vesalius on the Human Brain*.

Philosophical Library
Booth W-11

Recent scientific publications in the Philosophical Library exhibit include: *Arctic Solitudes*, by Admiral Lord Mountevans; *The Scientific Adventure*, by Sir Herbert Dingle; and *Spinoza Dictionary*, edited by Dagobert D. Runes with a foreword by Albert Einstein.

W. F. Prior Co., Inc.
Booth D-7

A few moments spent at booth D-7 may be profitable to owners and non-owners of Prior publications. The revising and remaking of their standard loose-leaf references are graphically described. The prodigious amount of revised text that has been published for Tice's *Practice of Medicine*; Lewis' *Practice of Surgery*; Davis' *Gynecology and Obstetrics*; and Brennemann's *Practice of Pediatrics* demonstrate to visitors what epochal changes have occurred in medicine during the past few years.

Publishers' Authorized Binding Service
Booth B-30

The element of time is a vital factor to the medical practitioner. In this exhibit, the physician may see at a glance what can be accomplished in his own office or reception room by the use of distinctive bindings; and how time previously wasted on search can now be utilized

for research, P.A.B.S. (Publishers' Authorized Binding Service) offers you a time-saving, space saving, efficient service by condensing your important journals into attractive, durable, bound volumes.

W. B. Saunders Company
Booths C-9, 11, 13

Among the many new Saunders Books on display you will see the 1953 *Current Therapy*; Beckman's *Clinical Pharmacology*; Duncan's *Diseases of Metabolism*; Lewis' *Practical Dermatology*; Sheldon, Lovell & Mathews' *Clinical Allergy*; Gross' *Surgery of Infancy and Childhood*; *Collected Papers of the Mayo Clinic 1952*; Cattell & Warren's *Surgery of the Pancreas*; Parsons & Ulfelder's *Atlas of Pelvic Operations*; Dunphy & Botsford's *Physical Examination of the Surgical Patient*; and Todd, Sanford & Wells' *Diagnosis by Laboratory Methods*. Standard works such as Cecil-Loeb's *Textbook of Medicine*; Mitchell-Nelson's *Pediatrics*; Dorland's *Dictionary*; *Medical and Surgical Clinics of North America*—and many more—are at your disposal in the Saunders exhibit.

Springer Publishing Company, Inc.
Booth N-19

Exhibiting for the first time at an A. M. A. convention, Springer Publishing Company show many books of interest to the profession. Some of the new titles are: Goldzieher's *Endocrine Treatment in General Practice*; Nurnberger and Korey's *Chromophobe Adenomas of the Pituitary Gland*; Kane's *Sectional Radiography*; Canetti's *Histobacteriology of Tuberculosis*; and Silverberg's *Childhood Experience and Personal Destiny*. Also on display are medical atlases, made available in this country through Lange, Maxwell & Springer.

State Journal Advertising Bureau
Booth P-7

The State Journal Group is comprised of 34 state medical journals with a circulation of 136,277. With the same advertising standards as the publications of the American Medical Association, the state journals represent 39 state medical societies. Prospective advertisers are invited to stop at the S. J. A. B. booth to secure copies of the new editorial survey as well as sample journals and the current rate schedule.

Charles C Thomas Publisher
Booth F-9

In the Charles C Thomas exhibit over 200 square feet of display racks are loaded with new titles, many of which are shown for the first time. These include: Anderson, Bostick & Johnstone, *Amebiasis*; Gould, *Pathology of the Heart*; Haymaker, *Founders of Neurology*; Johns, *Physics of Radiation Therapy*; Poppel, *Roentgen Aspects of Papilla and Ampulla of Vater*; Stratton, *Atlas of Regional Dermatology*; and Willis, *Man's Back*. Physicians will also find 141 titles in the American Lecture Series.

Washington Institute of Medicine
Booth O-7

Newest among the monthly and quarterly Journals shown here is *Antibiotics and Chemotherapy*, established in 1951. This journal has presented a high percentage of the original research and clinical papers from outstanding authorities. While at the exhibit, ask about the *Post Graduate Journal* Plan, offered as an economical means of keeping up to date.

The Williams & Wilkins Company
Booth E-23

The Williams & Wilkins exhibit has many new books of wide general appeal, including a comprehensive clinical cardiology by 33 outstanding contributors; a practical, clinical dermatology for the general practitioner; a complete ophthalmologic diagnosis; an atlas of hernia surgery, and a useful monograph on diuretic therapy.

The Year Book Publishers, Inc.
Booth J-6

Booth J-6 (*second floor, adjacent to elevators and stairway*) provides comfortable facilities for leisurely examination of the entire line of Annual Medical Year Books, General Practice Manuals, Monographs and Handbooks. Available are the following new books and new editions: Wartenberg's *Diagnostic Tests in Neurology*; Moench's *Office Psychiatry*; Sulzberger & Wolf's *Dermatology*; Poestow's *Handbook of Operative Surgery on Biliary Tract*; Hollender's *The Pharynx*; Compere & Banks' *Pictorial Handbook of Fracture Treatment*; Gordan and Lisser's *Endocrinology in Clinical Practice*; Hughes' *Office Management of Ocular Diseases*; and Sears' *The Physician in Atomic Defense*.

DIAGNOSTIC DEVICES

American Cystoscope Makers, Inc.
Booths B-1, 2; C-1, 2, 3

Representatives of American Cystoscope Makers, Inc. welcome an opportunity to demonstrate the complete line of catheters, electrically-illuminated instruments, accessories and electro-medical equipment made by the company. This interesting display of diagnostic and operating instruments should prove especially informative.

W. A. Baum Co., Inc.
Booth C-23

Sphygmomanometry is the keynote here. Physicians who have been thinking about the increasing importance of bloodpressure measurement can benefit from a visit to the Baum booth. Highlighted is the new, cleanable Air-Lok Cuff —said to be the first cuff in which the inflation bag is an integral part. Andall Baumanometer Models and parts are also displayed.

Beck-Lee Corporation
Booth K-16

Here at the Beck-Lee booth, you may see their latest developments in electrocardiographs. Trained technicians are in attendance to demonstrate the Cardi-All, a new light weight direct-writing instrument with many unique features—the compamatic circuit, automatic stylus protection and patient fused. Beck-Lee also display their models E and Era Quartz String Galvanometer type electrocardiographs. Technicians will gladly discuss these features and demonstrate the convenience and dependability of the instruments.

J. Beeber Co., Inc.
Booths V-6, 8, 10

It is the sincere desire of the J. Beeber Company to make some contribution to the success of the 1953 Annual Session. Stop by at booths V-6, 8, 10 for the latest in diagnostic and treatment equipment, including the Mattern X-Ray line, Raytheon Microtherm, Beck-Lee Cardi-All Direct Writing Electrocardiograph, Hamilton Office Furniture, etc.

Cambridge Instrument Co., Inc.
Booths M-9, 11

Of special interest here are: the well-known Cambridge Simpli-Scribe Model Direct-Writing Portable Electrocardiograph; the Cambridge Standard String Galvanometer Electrocardiograph; and the Simpli-Trol Portable and Mobile Model Electrocardiograph-Stethograph-Pulse Recorder. Other important Cambridge instruments include the Operating Room Cardioscope; Educational Cardioscope; Multi-Channel Direct-Writing Recorder; Electrokymograph; Piethysmograph, and pH Meter. The Cambridge engineers in attendance will be glad to discuss your problems and make recommendations accordingly.

Certified Blood Donor Service
Booth N-11

Certified Blood Donor Service display many items for hospitals and laboratories. These include: blood grouping sera, Anti-Rh sera, Anti-Human serum, serological reagents, light heat boxes, capillary tubes and Perma Slides.

Clay-Adams Company, Inc.
Booth P-1

Clay-Adams Company is exhibiting some new developments in medical and laboratory instruments and visual aids: anatomical models, manikins, charts and skeletons. Among the new items are the Adams Fertility Calculator, the Best Anemia Classifier, new developments in blood sedimentation and blood testing apparatus.

The Denver Chemical Mfg. Co., Inc.
Booth T-2

Sugar Test Denco (Galatest powder), Acetone Test Denco, and the new Albumin Test Denco are demonstrated here. These simplified tests offer the advantages of accuracy, simplicity and economy in routine urinalysis. A combination kit containing the Sugar Test and Acetone Test is offered especially for use by the diabetic patient.

Edin Company, Inc.
Booth I-14

Here is an opportunity to see Edin's recent developments in Council-accepted electrocardiographs and electroencephalographs. Edin engineers, in attendance at the exhibit, will be pleased to discuss your clinical and research problems.

Ercona Corporation
Booth I-30

This exhibit includes a representative selection of the Carl Zeiss-Jena products. Among the items shown are new, modern types of Zeiss Research Microscopes, such as the Lumipan, with interchangeable binocular and monocular tubes; triple sub-stage condenser revolver; pan-chratic condenser system; built-in illuminator; phase contrast equipment; a selection of Zeiss Ophthalmic Instruments; the Zeiss Colposcope for exploring the surface of the vagina for pathological indications; and photomicrographic equipment.

Gradwohl Laboratory Supply Co.
Booth I-37

Gradwohl offers the profession its services for laboratory reagents, all carefully tested and controlled. Among the leading items shown are certified Giemsa stains and testing sera. The display includes literature on the *Laboratory Digest*, a monthly publication devoted to laboratory work.

Jones Metabolism Equipment Co.
Booth K-5

Trained representatives are on hand in booth K-5 to demonstrate the various models of Jones metabolism equipment and to discuss recent refinements and improvements. These units with volume and time adjustments can be fitted to the individual size and breathing characteristics of the patient, thus affording greater accuracy of results.

National Electric Instrument Co., Inc.
Booth M-4

The National Electric Instrument Company is showing not only its whole range of diagnostic instruments but also a number of new and exceptional items. This exhibit is expected to attract the general practitioner and various specialists, especially in the field of urology, proctology, gynecology and E. E. N. T. The visitor's interest is bound to be stimulated by the many new developments shown in the National display.

Oval Wood Dish Corp.
Booth W-19

The OWD Riteshape Tongue Blade, a disposable blade made of selected hardwood is announced at the Oval Wood Dish Corporation exhibit. The design of the blade features a double bend which permits the physician's hand to remain out of his line of vision. The use and control of the instrument is facilitated by a small indentation in the handle into which the physician's finger conveniently fits. A reinforcing fillet along the center section of the blade gives strength and rigidity. The convex form of the end provides adherence to the back of the tongue.

Sanborn Company
Booth F-13

Latest Sanborn instruments for clinical diagnosis, teaching and research, are shown in booth F-13. In the clinical group are the Viso-Cardette, direct-writing electrocardiograph; the Metabulator, self-enclosed metabolism tester; and the new Twin-Beam, two-channel photographic recorder for simultaneous (or separate) recording of diagnostic phonocardiograms and high-deflection speed electrocardiograms. Those interested in research will want to investigate the Twin-Viso and Poly-Viso, two and four-channel direct-writing recording systems; the Sanborn Electromanometer, widely-used for physiologic pressure measurements; and many others.

U. M. A., Inc.
Booth N-6

U. M. A., Inc. is displaying three instruments for the diagnosis and treatment of peripheral vascular diseases: the Collens Sphygmo-oscillometer, the U. M. A. Thermocouple and the Collwil Intermittent Venous Occlusion apparatus.

DIETETIC PRODUCTS

Adolph's Ltd.
Booth H-8

Adolph's Meat Tenderizer joins with Adolph's Salt Substitute (dietetically sodium-free) to greet you again at an AMA convention. Many leading publications are applauding these interesting products. Free samples and literature are offered for your examination at booth H-8.

Beech-Nut Packing Co., Inc.
Booth A-1

The Beech-Nut Packing Company displays its complete line of Strained and Junior Foods as well as four pre-cooked cereals. Corn Cereal, an innovation in the infant food field, is introduced. Nutritionists at the booth will be happy to answer questions pertaining to the use of these foods from both the geriatric and pediatric standpoint.

The Best Foods, Inc.
Booth K-30

This exhibit gives you an opportunity to become better acquainted with high quality food products of The Best Foods, Inc.: Hellmann's and Best Foods Real Mayonnaise; French Dressing; Old Homestead French Dressing; Relish Sandwich Spread; Best Foods Mustard with Horseradish; and Fanning's Bread & Butter Pickles. At booth K-30, you may also learn more about Nucoa Margarine, the first yellow margarine with food value in every single ingredient. No benzoate preservative and no synthetic flavor are added. Even Nucoa's sunny color comes from nature. Its vitamin A is carotene; its vitamin D is pure calciferol. Miss Elsie Stark, Director of Consumer Education, will welcome you at the booth and provide information on the properties and uses of Hellmann's and Best Food Products.

The Bib Corporation
Booth R-8

An exact scale model of their canning plant is shown by The Bib Corporation. The exhibit which contains over 1,000 working parts and required two months of labor to assemble, highlights three products to the medical profession. All doctors visiting the booth will be given a chance to taste Bib Orange, Bib Prune-Orange and Bib Orange-Apricot and will be presented with informative literature regarding these additions to the baby food field.

The Borden Company
Booths I-7, 9

Babies, children, adults—all will benefit by what you will learn about their nourishment in booths I-7 and I-9. For almost a century, Borden's and their nutritional specialists have been working hand-in-hand with the medical profession in the interests of public health and better nutrition. What they have learned in the past will inspire and guide them in the future. Your confidence imposes upon them a responsibility to continue to develop the highest standards of modern nutritional science. Representatives at the booth welcome an opportunity to discuss Borden products with you.

Carnation Company
Booth Q-1

A cordial reception awaits you at the Carnation Merry-Go-Round exhibit, booth Q-1. The unique display shows that Carnation Milk is a first choice for infant feeding. Valuable literature on additional uses of Carnation Vitamin D Evaporated Milk for child feeding and general diet purposes is available for distribution.

Clapp's Baby Foods
Booth L-8

Food technicians are in attendance at the Clapp's Baby Foods exhibit to discuss with you every phase in the development and manufacture of their Strained, Junior and Cereal Foods for baby. Clapp's are the original commercially prepared baby foods and also the first to be introduced to the medical profession, in 1921.

The Coca-Cola Company
Booths F-2; K-15; V-1

Pause here for a drink of ice-cold Coca-Cola, served through the courtesy and cooperation of the Coca-Cola Bottling Company of New York, Inc., and The Coca-Cola Company.

Corn Products Sales Company
Booth R-9

Booth R-9 features Karo Syrup as an outstanding milk supplement in infant feeding and an important source of carbohydrate food energy "right through life." Technical men in attendance will be pleased to answer questions regarding the use of this fine product.

The Cream of Wheat Corp.
Booth S-6

The familiar Enriched 5 Minute Cream of Wheat and the Regular Cream of Wheat merit your attention in booth S-6. A worthwhile vitamin food chart and baby book, "Commonsense Feeding Habits for Your Baby," will be mailed or given to physicians who register at the booth. Zing, stabilized wheat germ which has been accepted by the A. M. A. Council on Foods and Nutrition, is introduced. Samples and literature are available.

The Dietene Co.
Booth A-21

Visit the Dietene exhibit and examine the Free Diet Service for physicians. The diets are nutritionally well-balanced, easy to follow, and made to appear as if they were typed in your office. Meritene, an economical and palatable whole protein supplement, and Dietene, a Council-accepted reducing supplement, are displayed.

Evaporated Milk Association
Booth U-6

"Diet During Pregnancy," a completely revised prenatal diet booklet, is one of the many useful publications on maternal and child health seen in the Evaporated Milk display. Other helps available to physicians are: "Making Baby's Formula," which pictures steps in terminal heating technique; "Good Milk to Grow On"; and a manual on formula construction.

General Foods Corporation
Booths L-5, 7; S-31

A cup of delicious Instant Sanka Coffee is being served in booths L-5 and L-7. While visiting the exhibit, you may want to talk with professional members of their staff about other featured products—Minute Rice, Minute Tapioca, Jell-O, and Jell-O Puddings—and to register for the literature you would like to have. Your wives will be interested in some of the recipes offered. Postum, a favorite cereal beverage for many years, is featured in S-31 as a refreshing milk shake and as a nightcap. D-Zerta, a saccharin-sweetened, fruit-flavored gelatin for diabetics, is also presented here.

Gerber Products Company
Booth G-1

Gerber's exhibit their wide variety of starting Cereals, Meats for Babies, Strained Foods and Junior Foods which provide first-year supplementary feeding. A visit to the Gerber booth will help you keep in touch with "What's new in baby foods." It will permit you to review revised and new service literature on infant care and special adult diets.

Golden Guernsey, Inc.
Booth S-33

Golden Guernsey cows roam grassy pastures in a special miniature farm display under the theme, "Fine Milk from Fine Farms." A giant bottle of milk—"nature's goodness at its best"—dispenses samples of Golden Guernsey milk to all visitors at booth S-33.

H. J. Heinz Company
Booths D-15; E-24

New items in the Heinz baby food exhibit are: Strained Orange Juice, Pre-Cooked Rice Cereal and Strained Cream of Tuna. A spill-proof tumbler to teach babies to drink is offered. Literature for distribution to your patients or for office use include: "Strained Foods For Your Baby's Diet," "Junior Foods For Older Babies," "Baby Gift Folders," "Nutritional Data" and "Nutritional Observatory."

Jackson-Mitchell Pharmaceuticals, Inc.
Booth L-15

Their new can "with the golden lining" features the Meyenberg Evaporated Goat Milk exhibit. This new enamel-lined can protects the milk from contact with metal during storage and permits sealing under vacuum. Another highlight is Hi-Pro, a specially processed, high-protein, low fat basic food of spray-dried cow's milk.

"Junket" Brand Foods
Booth K-7

Essential facts on the chemistry of the rennet enzyme and the nutritional significance and psychologic value of rennet desserts in the diet of infants and children are explained here. The enzymatic action of rennet in producing softer, finer, more readily-digestible milk curds is illustrated by enlarged photos. Literature describing the dietary applications of rennet products is available for your reference.

Kellogg Company
Booth K-12

A complete line-up of Kellogg's cereals in their colorful "magazine cover" packages may be seen in K-12. Sugar Frosted Flakes, a new pre-sweetened product, is presented. Special materials and suggestions for bland, high residue, low caloric, high caloric, salt restricted, high protein, and low fat diets, are on display. These diets have been carefully outlined following the recommendations of well known authorities.

Loma Linda Food Company
Booth U-20

As an aid in solving many feeding problems, especially those related to allergy, the new Soyalac Infant Food is presented in booth U-20. Attendants will be happy to discuss the uses of this hypo-allergenic food in infant, child and adult special diets. A sample of flavorful Soyalac is being served at the exhibit.

V
19

M & R Laboratories
Booth C-4

Similac representatives are happy to take part in this meeting and to discuss with you the role of Similac in infant feeding. At the booth they have the latest pediatric research conference reports and current reprints of pediatric nutritional interest.

Mead Johnson & Company
Booths E-15, 17, 19; G-3

Mead Johnson & Company at its booths E-15, 17 and 19 feature Dextri-Maltose with its recent changes in composition, Olac, Lactum, Pablum and vitamin products. At its parenteral solutions booth, G-3, Levugen, the first solution of pure fructose for intravenous use, is introduced.

Mellin's Food Company of North America
Booth H-2

Once again, Mellin's Food — now containing added iron and thiamine—is looking forward to greeting its old friends and meeting new ones. Mellin's Food is focusing special attention on booth H-2, where qualified representatives will be pleased to discuss with physicians the composition and usefulness of this proven product. Discovered in 1866, Mellin's Food was the first stabilized maltose and dextrins milk modifier for infant feeding.

National Dairy Council
Booth L-6

Information on one of the nation's most important health problems is displayed in the National Dairy Council exhibit entitled "Weight Reduction Through Diet." The exhibit is based on a study conducted by Dr. Margaret A. Ohlson, Foods and Nutrition Department, Michigan State College. Typical daily menus are attractively displayed in picture form.

National Live Stock and Meat Board
Booth L-21

The value of meat in the diet from infancy on through old age—based on research investigations of these age groups—is the theme of this exhibit. Nutritional literature, available to the physician, may be secured at the booth.

The Nestle Company, Inc.
Booth E-9

For your relaxation, the Nestle Company invite you to booth E-9, where specially qualified representatives will be happy to answer your questions on any of Nestle's milk products. New pieces of valuable literature are available to the profession.

Pepperidge Farm, Inc.
Booth N-21

If you've forgotten how home-made bread tastes, stop at the Pepperidge Farm exhibit and try delicious hand-kneaded bread made from 100 per cent whole wheat flour, whole milk, butter and honey. You will be intrigued also by the model mill which is a replica of the mill now grinding flour for the famous Pepperidge Farm whole wheat bread.

Pet Milk Company
Booth E-7

A miniature working model of an evaporated milk plant is displayed by Pet Milk Company in booth E-7. This exhibit offers an opportunity to obtain information about the production of Pet Milk, its use in infant feeding and the time-saving Pet Milk services available to physicians. Miniature Pet Milk cans are offered to physicians who visit the Pet Milk booth.

Ralston Purina Company
Booth A-8

Two new additions to Ralston's Free Dietary Services to physicians are announced here: the "Weight-Watcher," a booklet to help those patients who have a tendency to gain; and an 800-Calorie Diet, for your recalcitrant overweights. You may also examine and order other weight control, allergy and pregnancy diets and a set of feeding direction forms for infants and young children. Professional personnel at the booth will be happy to answer your questions about Ry-Krisp and Ralston Whole Wheat Cereals.

Sanna Dairies, Inc.
Booth W-17

Representatives here discuss Sanalac. Cost conscious buyers seek foods that are economical and high in nutritional value, foods consisting of nutritionally superior ingredients which are essential to good nutrition. Thus, Sanalac non-fat milk containing 3.5 oz. of milk solids per quart provides exceptionally high nutritional returns for a moderate cost.

The Seven-Up Company
Booth K-40

"Fresh Up with 7-Up" is your invitation to visit booth K-40 for a chilled bottle of crystal clear, sparkling 7-Up. Representatives at the exhibit will be happy to serve you.

Sunkist Growers
Booth A-28

The development of protopectins in oranges as an integral part of the fruit's metabolic system and the function these polysaccharides play in the physiology of the human gastrointestinal tract form the basis of the educational exhibit of Sunkist Growers. Emphasis on the protopectin contribution to good nutrition by providing a healthier "intestinal climate" is the result of newer studies in the field of these non-nutritive carbohydrates. Information on the use of lemon juice in the flavoring of foods used in low-sodium diets is also available at the exhibit.

Swift & Company
Booth A-11

The original all-meat baby foods, Swift's Meats for Babies and Juniors, feature booth A-11. You may discuss the use of these high protein, body-building foods with representatives in attendance. Due to the extensive use of these products in adult special diets, a larger size can containing 12 ounces has been made available. Literature and information on the use of Strained and Chopped Meats in both the infant and special adult diet may be had at the booth.

United Fruit Company
Booth L-29

All visitors are invited to stop at booth L-29 for a nutritious Banana Milk Shake made with fresh, fully ripe bananas. Representatives of United Fruit Company will be happy to answer your questions pertaining to the use of bananas in therapeutic and normal diets.

HEARING AIDS

Paravox, Inc.
Booth N-25

The Paravox exhibit features Photoscription, a method of fitting a hearing aid for the individual patient. A photo of sound-waves is produced from the air receiver, which helps to ascertain whether the patient's hearing loss is being compensated. The display includes several models of Paravox Hearing Aids and latest information on the Transistor-type hearing aids—their possibilities, economy and performance.

Zenith Radio Corporation
Booth K-8

At booth K-8, the Hearing Aid Division of Zenith Radio Corporation exhibits its line of high-quality, low-cost hearing aids. Here is an opportunity to discover first-hand what these instruments can do for the hard-of-hearing. Try out Zenith's Phone Magnet—a tiny device which brings interference-free telephone conversations by eliminating air borne sounds. Zenith representatives will be happy to explain how any physician can test one of these instruments for 30-days at no cost or obligation to him or his hard-of-hearing patients.

OFFICE EQUIPMENT & FURNITURE

W. D. Allison Co.
Booths K-22, 24

The beautiful and practical Fleetwood examining room group is introduced in K-22 for the first time. Representing the Allison line of Physician's Wood Furniture, the display also includes the Allison Pediatric Table and consultation room furniture.

American Cabinet Co.
Booths N-12, 14

For the first time anywhere, the Hamilton steel pediatric table is shown. The base of this interesting table is all steel. It contains a double-door storage compartment and three drawers. The top is upholstered and has built-in weighing and measuring scales. Other Hamilton equipment on display includes the well-known, wood companion of the steel pediatric table; suites of Hamilton examining room equipment in Nu-Tone, Nu-Trend and Steeltone; and a complete laboratory bench.

American Sterilizer Company
Booths J-1, 3

At this exhibit you may witness live model demonstrations of patient positioning on a new Major Surgical Operating Table in conjunction with the Surgical Luminaire. Other items on exhibit include: a Junior Office Autoclave; a new Cabinet Model Instrument Sterilizer; MacEachern Obstetrical Table for both spontaneous delivery and caesarian section; and the new Pantrak Light, that is positioned by the surgeon or obstetrician.

American Surgical Trade Assn.
Booth I-25

If you are planning a new office be sure to see a "Guide for Planning Physicians' Offices" featured by the American Surgical Trade Association. The 32-page guide contains typical office layouts, together with descriptive material and suggestions on how offices can be arranged for maximum comfort and efficiency. Office layouts for many specialties are included.

Burroughs Adding Machine Co.
Booth O-1

Burroughs Adding Machine Company display a completely new Multiple-Total Adding-Subtracting machine. The Burroughs Sensimatic Accounting machines show how the patient's accounts, ledger, statement and distribution of charges can be handled in a single operation. A low cost model bookkeeping machine and a complete line of adding and cash registering-receipting machines are demonstrated.

Burton Manufacturing Company
Booth I-10

If you have a lighting problem, we suggest that you see the Burton exhibit of lights: Fresnel Lights, Flo-Lights, Magnifier Lights, Bullseye Lights, Microscope Illuminators, and the Super Power line of lights. New models shown include the Super Power Senior with the extra-large fourteen-inch diameter Alzak reflector and per-

fected swivel joint and the Super Power Junior using the regular ten-inch diameter reflector. Blood-Diluting Pipette Shakers and the new Clinical and Kahn Shakers are additional features.

Wilmot Castle Company
Booth C-12

A new hi-speed autoclave known as the No. 777 is demonstrated at the Wilmot Castle exhibit. Designed to fit budget, space, and speed requirements of a busy doctor's office, it sterilizes in one-fifth the running time of the regular autoclave. From a cold start, it requires only 6 to 7 minutes to reach 250° F. and can be re-run in approximately three minutes.

Colwell Publishing Company
Booth I-12

Colwell presents a complete line of medical record supplies including the Daily Log for physicians—an easily-kept history of the business side of a practice. History and ledger cards, sheets from stock or printed-to-order, printed stationery and appointment books are also shown. You may want to talk over your particular record problems with specialists in this field.

Dictaphone Corporation
Booth I-41

Help for the busiest man in town—the doctor—comes in a streamlined package, the size of a letterhead and the height of a king-size cigarette. It's the electronic Dictaphone Time-Master, on display in booth I-41, that records dictation, case histories, interviews and other table work necessary to the doctor's practice. Ask the Dictaphone representative for complete details on Time-Master telephone recording and how it helps the doctor and his nurse-assistant.

Gray Manufacturing Company
Booth A-29

The Gray Manufacturing Company, originators of the telephone pay station in 1891, is featuring the Gray Audograph and PhonAudograph dictating and recording systems. Designed to save time for busy doctors and medical assistants, the Gray Audograph systems can be tailor made to suit your individual requirements. Several choices of microphones enable you to record conferences, patient interviews, medical society meetings, lectures, etc. A control box makes it possible to record both ends of telephone conversations for a permanent record.

International Business Machines Corp.
Booth I-25

The IBM Executive Electric Typewriter with proportional letter spacing is something to see in booth I-25. This machine makes possible the preparation of copy with a straight right hand margin, which gives case histories, medical reports and correspondence the appearance of fine printing. The IBM Nurses' Call System, also demonstrated here, enables bedridden patients to summon nurses by means of a bedside call button which, when pressed, transmits audible and visible signals throughout the system. When the button is released, only the visible lamp signals remain. IBM's Utility Control System, electronic clock systems, and time stamps are other interesting features.

Medical Case History Bureau
Booth T-3

A handy, compact method for keeping complete case histories is shown here. In the Info-Dex Record System, charts are so arranged on folders that subsequent cards may be attached by means of a cotter pin which holds the cards together in correct sequence. Different colored cards are available for various types of data such as laboratory, x-ray findings, etc. Included in this system is an automatic diagnostic cross-index. Steel filing cabinets in which to house these history charts and bookkeeping records are also displayed.

Miles Reproducer Co., Inc.
Booth P-3

Patient's case histories may be recorded with Miles' Walkie-Recordall—a self-powered recorder-playback combination weighing only eight pounds. Excellent for interviews, conferences, consultations, this on-the-spot brief-case type recorder picks up conversation within sixty feet. These and other advantages—including a single Sonaband, easy-to-file recording medium—are discussed by representatives at the exhibit.

The Pelton & Crane Company
Booth F-8

A new type autoclave—small enough for the private office, large enough for most instruments—which operates at the speed of the hospital autoclave, is exhibited by The Pelton & Crane Company. This autoclave generates, then stores steam in a reserve chamber available for immediate use at any time of the day. Waiting period between sterilizing cycles has been eliminated. See it in booth F-8 on the first floor.

Professional Printing Company, Inc.
Booth U-26

Professional Printing Company, Inc., manufacturers of printed items and office supplies distributed exclusively to the medical profession, feature their complete line of Histacount products: stationery, patients' records, bookkeeping systems, files and filing supplies. Actual samples of all items are on display for close examination and study. Drop in and see these products. Booth U-26 is located on the third floor, in the rear of Aisle U, next to the stairway leading to the scientific exhibits.

The Prometheus Electric Corp.
Booth U-7

Exhibited here is a recessed Sterilizer-Autoclave combination. The complete unit in a beautiful enameled, double glass door cabinet is excellent for the physician or surgeon who does minor surgery in the office or clinic. Also on display are: an improved examining light with a floating arm; portable and cabinet model sterilizers; and a clinic-office autoclave.

Servel, Inc.
Booth W-25

The new Servel Electric Wonderbar, compact, portable, silent "refrigerette," may be inspected here. The Wonderbar provides 1.31 cubic feet capacity for the protection of serums, perishable pharmaceuticals and other medical products requiring low-temperature storage. It operates with an electric absorption refrigeration system, using a small heating element instead of a motor or other moving parts.

Shampaine Company
Booths K-26, 28

The initial showing of Shampaine's new Steelux examining and treatment room furniture with I. D. (Integrated Design), new lines, new color combinations, and new push button stirrup assembly makes this exhibit worth your seeing. Demonstrations of hydraulic, all-purpose and specialized chair tables are additional attractions.

Sikes Company, Inc.
Booth S-2

Sikes Butterscotch furniture for professional office use is emphasized in S-2. Butterscotch is solid northern birch furniture in Early American style, finished in a pleasing butterscotch color. Many styles of chairs (and a small settee) are available in all-wood. The exhibit highlights two Executive Posture Chairs, which, judging by their reception at the last few meetings, bid fair to become "standard equipment" in professional offices.

The SoundScriber Corp.
Booth O-10

Tycoon dictating and transcribing equipment is presented by SoundScriber, a pioneer in electronic plastic record dictation. The Tycoon, the dictator's instrument, small and compact in a light-weight magnesium cabinet, features the new Quick Review microphone which provides instantaneous review of the last few dictated words. The Lady Tycoon, the secretary's instrument, features a revolutionary means of translating the dictator's instructions to the secretary—called "television indexing." SoundScribers are adaptable to a wide variety of uses for the physician, such as telephone recording, interview and conference recording, dictation at home, in the automobile, or literally everywhere that electric current is available.

OPHTHALMIC INSTRUMENTS

American Optical Co.
Booths D-1; E-1, 2

Ophthalmic instruments and equipment featuring the latest developments, highlight the AO exhibit. Included in the display are the Ful-Vue line of ophthalmoscopes, otoscopes and retinoscopes; the Schepens Indirect Binocular Ophthalmoscope; the new Sterile Fluids Pump; and the Hb-Meter. Trained representatives of the Instrument Division of American Optical Company are on hand to discuss and demonstrate these products.

Bausch & Lomb Optical Co.
Booth R-3

A special feature of the Bausch & Lomb exhibit is the "Century of Eyewear" display of costumed dolls, commemorating the Bausch & Lomb centennial. Other features are: the Bausch & Lomb Retinal Camera with enlarged transparencies of fundus pictures; latest developments in modern ophthalmic, diagnostic, and refracting equipment; and an improved lens, the Panoptik Lenticular Cataract for aphakic corrections having relatively flat curvature, flexible mechanical properties and a wide reading field.

Berman Laboratories
Booth U-17

In addition to its regular line of non-responsive stainless metal retractors, for use with the Berman Metal Locator, Berman Laboratories is introducing a recently developed non-responsive stainless metal eye speculum. This speculum is offered as a material aid to the Ophthalmologist when using the Locator—an electromagnetic instrument which quickly detects and localizes metallic foreign bodies through intervening tissue, bone and fluid. Physical contact with the foreign body is not required. In addition to its usefulness in general surgery for localizing broken or lost needles, industrial fragments, shrapnel, etc., the Locator has proved particularly effective in removing magnetic intraocular foreign bodies.

Anton Heilman
Booth O-11

Anton Heilman, importer, offers a complete display of refracting and diagnostic instruments, including an ophthalmometer (Javal-Schiotz); binocular ophthalmoscope; slit lamp binocular microscope; refracting unit; Mutch proptometer; Amsler's charts, Cole Marshall charts; prism-exophthalmometer; scotometer; hand slit lamp; focal illuminator; and vertex refractionometer. Fortiphone Hearing Aids and a selection of medical and research microscopes round out the exhibit.

Keystone View Company
Booth C-124

Keystone Prescription Services for home training of visual discomfort, exophoria and esophoria are demonstrated in booth C-124. These services have been recently revised. Doctors who lecture or conduct classes will be especially interested

in the versatile Keystone Overhead Projector for use with standard slides, handmade slides, 35 mm. slides and micro-slides. Ophthalmologists will find the Keystone Stereomotivator for the diagnosis and orthoptic training of strabismus a new and effective procedure.

Obrig Laboratories, Inc.
Booth N-13

The Obrig Laboratories display includes: the latest developments in solutionless contact lenses; gonioscopic lenses; Plas-tite, a soft plastic material which can be applied to nose bridges; plastic temples; and frames. Plas-tite is said to be non-toxic, non-irritating, and to keep spectacles from slipping.

PERSONNEL BUREAUS

Continental Medical Bureau
Booth G-11

Helen Buchan, Director of Continental Medical Bureau, is in G-11. She suggests that you stop by and discuss any present or anticipated openings in your office. She has up-to-date information on locations and appointments in California, Pacific Northwest and the Rocky Mountain area. Included in her staff is a licensed real estate and business broker.

The Medical Bureau
Booth D-11

In booth D-11, M. Burneice Larson offers the facilities of The Medical Bureau, an organization serving as counselors in problems of medical and hospital personnel to medical schools, hospitals and institutions, public health and welfare organizations, group clinics, physicians in private practice and industry. Recommendations can be made of Diplomates of the American Boards, physicians interested in assistantships or further training, general practitioners and industrial physicians, administrators, public health specialists, executive and supervising nurses, scientists, technologists, dietitians, social workers and other professional personnel.

The New York Medical Exchange
Booth P-10

On the third floor in booth P-10, you may consult with Patricia Edgerly and members of her staff regarding opportunities in industrial medicine, hospital administration, the pharmaceutical industry, in various specialties certified by the American Board, and in general practice. You may also review the credentials of some good applicants whose services you may be seeking. Stop by and chat with her.

Shay Medical Agency
Booth E-21

Blanche Shay, director of Shay Medical Agency —a specialized placement service for professional personnel—welcomes your visit to booth E-21 where you may discuss in strict confidence your employment problems. This individual service of international scope embraces the placement of physicians; medical directors of colleges, universities, industries, and pharmaceutical manufacturers; hospital executives, superintendents, technologists, therapists, supervisors, dietitians, etc. Whether you are seeking help, a position, or a new location—whether your needs are immediate or future—Shay Medical Agency can assist you.

Woodward Medical Personnel Bureau
Booth D-5

To doctors seeking to re-locate, reorganize or augment their present staff, Ann Woodward offers the facilities of the Woodward Medical Personnel Bureau. Details of excellent opportunities for above-average income, with good security and fine future potential, also records of exceptionally well-qualified young doctors as well as diplomates of the specialties, may be found in booth D-5.

PHARMACEUTICALS

Abbott Laboratories
Booths C-5, 7; D-4, 6, 8

You are invited to stop at the Abbott exhibit for coffee, lemonade and cookies—all sweetened with Sucaryl, a non-caloric sweetener for sugar-restricted reducing and diabetic diets. Stable to heat, Sucaryl stays sweet in cooking and canning and has no bitter aftertaste in ordinary use. Other products featured in the Abbott exhibit include Erythrocin, a new oral antibiotic especially effective against gram-positive organisms resistant to other antibiotics; Selsun, dramatic new drug offering effective control of dandruff and more severe forms of seborrheic dermatitis of the scalp; Sulestrex, an odorless, tasteless oral estrogen for control of menopausal symptoms; and the Abbott line of intravenous solutions and equipment.

American Hospital Supply Corp.
Booth A-9

American Hospital Supply Corporation display the complete line of Baxter Intravenous Solutions and accessory sets, including the new electrolyte solutions; Dade Grouping and Typing Serums; Markham Bacteriological Antigens; Sylvana Serology Antigens; a Beckman Model B Spectrophotometer and flame attachment in actual operation; the Venipuncture Training Arm; and many new, time-saving items.

Ames Company, Inc.
Booth B-11

"Therapeutic bile" overcomes biliary stasis is what you will hear at the Ames exhibit. Briefly stated, hydrocholeretic Decholin considerably increases the volume output of a bile of relatively high water content and low viscosity. Such bile flushes the biliary tract in chronic cholecystitis, noncalculous cholangitis and biliary stasis.

The Armour Laboratories
Booths A-12, 14, 16

Council-accepted indications for Acthar, Armour Laboratories Brand of Adrenocorticotropic Hormone (Corticotropin—ACTH) are featured here. Representatives at the booth will be glad to discuss current aspects of Acthar with you. Also in the display are Armour's Adrenal Cortex Extract, Liver Extract, Liver Injection, Posterior Pituitary Liquid and Thyroid.

Ayerst, McKenna & Harrison, Ltd.
Booths C-16, 18, 25

Ayerst, McKenna & Harrison, Limited take pleasure in extending a cordial invitation to all physicians attending this meeting to visit their booths, C-16, C-18 and C-25. Medical representatives will be glad to discuss Antabuse, Premarin and Esorbin; answer your questions on new developments; or just have you relax in the booth.

Bilhuber-Knoll Corp.
Booth M-22

For the latest information on the advantages of Metrazol for respiratory stimulation, visit the Bilhuber-Knoll exhibit in M-22. Metrazol has been the subject of much investigation in the past year. Your discussion of this effective analeptic and other Bilhuber medicinal chemicals—such as Dilaudid, Theocalcin and Bromural—will be welcomed.

Brewer & Company, Inc.
Booth T-13

Brewer & Company features some of the products of its Ampul Division, as well as the Tablet Division, and three of its specialties: Thesodate, brand of Theobromine Sodium Acetate, supplied in enteric coated tablets; Gel-Ets Oleovitamin A 25,000 Units; and Gel-Ets Triasyn B. Representatives will be glad to answer any questions concerning these products and arrange to send samples and literature to the physician's office.

Burroughs Wellcome & Co. (U.S.A.) Inc.
Booths C-21, T-18

Aerosporin Sulfate brand Polymyxin B Sulfate which is bactericidal to many gram-negative bacilli including pseudomonas aeruginosa (B. pyocyaneus) is featured here. Other products of interest are: Hexameton Chloride, an autonomic ganglion blocking agent for treatment of hypertension; Digoxin (B. W. & Co.), a pure, rapidly eliminated, crystalline glycoside; Intermediate-acting Globin Insulin (B. W. & Co.), a clear solution requiring no preliminary shaking; Anectine Chloride brand Succinylcholine Chloride, a short acting skeletal muscle relaxant which permits minute-to-minute control for long or short surgical procedures.

The Central Pharmacal Co.
Booth T-19

Interest at the Central Pharmacal exhibit centers on their outstanding Synophylate (Theophylline-Sodium Glycinate), an improved Theophylline compound. Specimens of the various dosage forms and professional literature are available at the booth.

Chicago Pharmacal Company
Booth I-35

The Chicago Pharmacal Company, manufacturers of fine Chimedic pharmaceuticals for over half a century, display high quality Chimedic injectables with the unique Color-break ampuls and plastic capped vials. The exhibit offers literature and samples of Chimedic hormone preparations that meet the most exacting requirements for purity, potency and effectiveness.

Chilean Iodine Educational Bureau, Inc.
Booth R-2

The Chilean Iodine Educational Bureau in R-2 emphasizes the values of iodine and its compounds and preparations in the fields of medicine, surgery and nutrition. Samples of official and Council-accepted drugs containing iodine are displayed. Reprints of various papers and other facilities of the Bureau are offered at the exhibit.

Church & Dwight Co., Inc.
Booth F-11

Church & Dwight Co., Inc. display its famous Arm & Hammer and Cow Brands Baking Soda (Bicarbonate of Soda) in booth F-11. Colorful booklets suggesting its application as a dentifrice and handy pocket-size samples suitable for traveling may be had at the booth. Bicarbonate of Soda in a new package with convenient metal pouring spout for medical and dental use is being demonstrated.

Ciba Pharmaceutical Products, Inc.
Booths A-6; B-9; C-14

Ciba in B-9 and C-14 features an animated exhibit, using carved plastic coordinated with sound to illustrate the mechanism of maintaining both normal and pathological phases of blood pressure. The effects of neurogenic and humoral substances elaborated by the brain and kidney and the influence of pheochromocytoma on blood pressure are shown. The role of Regitine, Apresoline and Esomid, in the diagnosis and treatment of hypertension, is discussed. Booth A-6 displays many of the scientific publications Ciba makes available to physicians. *Ciba Clinical Symposia; Hypertensio-Vascular Progress;* two volumes of *The Ciba Collection of Medical Illustrations;* and 35 mm. color slides of Dr. Netter's drawings of anatomy and pathology.

Commercial Solvents Corp.
Booth M-14

The C. S. C. display features Injection Expandex, brand of dextran. Expandex has been widely tested both in the laboratory and clinically; and its value as a plasma volume expander

in the treatment of shock due to hemorrhage, burns, trauma and surgery has been firmly established. Company representatives, many of whom have been responsible for the development of Expandex, will be happy to discuss this important preparation with physicians.

The Continental Pharmacal Co.
Booth L-17

Interest at booth L-17 centers on hospital parenteral solutions with the new universal stoppers; administration sets with the built-in air filter; universal stoppered blood collection bottles with the sealed-in blood filter; collection and administration blood sets; and new disposable stat sets.

Cutter Laboratories
Booth F-18

Booth F-18 features the complete line of Cutter Saftiflask Solutions and Saftisystem blood bottles; the Saftitab Stopper, a new solid stopper providing open stopper convenience; all-plastic IV administration sets with the "built-in" Safticlamp. Cutter Human Blood Fractions including Normal Human Serum Albumin are on display.

Davies, Rose & Co., Ltd.
Booth L-9

Among this firm's laboratory productions, Pil. Digitalis and Tablets Quinidine Sulfate (Natural) have won the confidence of the cardiologist who knows that he can rely on their constant and dependable potency. You are cordially invited to visit booth L-9 where representatives will be pleased to welcome you and to discuss these outstanding cardiac therapies.

Doak Pharmacal Company, Inc.
Booth H-1

Two Doak products—Tersus and Salinidol—are presented. Tersus, a skin and scalp cleanser with a pH of 6.8, maintains the normal acid coat and removes adherent coating of foreign particles. Salinidol, a greaseless-ointment containing Salicylanilide 5%, is indicated in the treatment of tinea capitis.

Durex Products, Inc.
Booth H-3

An extensive line of contraceptive devices and preparations may be inspected at the Durex exhibit: Bow-Bend, Dumas, Duraflex (Matrisalus type), Mensinga (flat spring) and Durex Coil Spring Diaphragms; the Gynometer Diaphragm inserter; Lactikol Jelly; and Lactikol Creme. Combination kits for convenient dispensing are demonstrated.

Eaton Laboratories, Inc.
Booths B-4; I-13

The several dosage forms of the topical antibacterial agent Furacin are proving advantageous in their adaptability to recent advances in medical technics. One example is the application of Furacin Solution by atomizer in the exposure treatment of burns. The application is rapid and painless, and the resulting transparent film acts as a barrier to air-borne infection. When impregnated gauze for burns is preferred, Furacin Soluble Dressing gauze is easily prepared and highly efficacious.

Endo Products, Inc.
Booth D-3

Endo in booth D-3 features a basically new oral mercurial diuretic. Cumertilin Tablets have been administered for prolonged periods with little or no gastro-intestinal irritation. Cumertilin Tablets eliminate the need for injections in certain cases, and markedly lengthen the interval between injections in others. Signs of cardiac failure were controlled with Cumerulin Tablets in a series of ambulant patients, after cardiac compensation had been achieved with parenteral mercurials.

Fellows Medical Mfg. Co., Inc.
Booth J-4

Chloral Hydrate, a relatively safe, time-tested sedative is shown in convenient capsule form. Fellows have successfully encapsulated chloral hydrate (in two strengths), permitting the effective use of this important drug for day-time sedation and hypnosis. Fellows Chloral Hydrate Capsules (7½ grains) produce a normal type of sleep without appreciable depressant after-effects. Representatives at the booth will be pleased to discuss this important addition to the field of sedative and hypnotic therapy.

C. B. Fleet Co., Inc.
Booth K-10

"Notably safe and effective whenever laxation is indicated" is the theme of the Phospho-Soda (Fleet) exhibit. Phospho-Soda (Fleet) over the years has won the discriminating preference of many physicians—because of its controlled action, relative freedom from undesirable side effects and ease of administration.

Flint, Eaton & Company
Booth L-4

Flint, Eaton & Company feature Chothyn Syrup and Chothyn Capsules, original pharmaceutical products designed for lipotropic therapy. Trained professional service representatives will be happy to discuss with physicians these Council-accepted products and to acquaint them with the results of recent research pertaining to the use of lipotropic agents in the treatment of fatty infiltration of the liver.

Geigy Pharmaceuticals
Booth C-8

The Geigy exhibit features Eurax Cream, a non-sensitizing antipruritic noted for its prompt, prolonged relief in virtually every type of itching dermatosis and for its effectiveness in scabies. Also on display is Tromexan ethyl acetate, an oral anticoagulant which provides rapid effect, minimum of accidental overdosage hazards, and relatively easy patient management.

The Harrower Laboratory, Inc.
Booth G-13

The display of the Harrower Laboratory, Inc. is devoted to Mucotin, available in tablet or liquid form for peptic ulcer therapy. Mucotin combines the protective coating characteristics of gastric mucin with the antacid properties of aluminum hydroxide and magnesium trisilicate. A feature of the Mucotin exhibit is a giant size model of a gastroscope in position for observation of a gastric ulcer.

Hoffmann-La Roche, Inc.
Booths F-15, 17

The Roche display highlights practical prescription uses for Gantrisin—a soluble, single sulfonamide with a wide antibacterial spectrum. The various dosage forms of Gantrisin are exhibited and indications for use are described. Clinical reports, descriptive literature and samples of this and other Roche products are available at the booth.

Holland-Rantos Company, Inc.
Booth F-25

Jelly with diaphragm—or jelly alone—is a timely subject which physicians interested in medical contraception are invited to talk over with Holland-Rantos representatives in booth F-25. Koromex Diaphragms, Jelly and Cream—separately and in sets—are displayed for your inspection.

Hollister-Stier Laboratories
Booth N-8

Pioneers and specialists in allergenic products, Hollister-Stier Laboratories present information on the Allergy Service available from their four laboratories. All types of diagnostic and therapeutic extracts of pollens and proteins—including foods, epidermals, feathers, furs, fungi and miscellaneous factors—are exhibited. Accessories for office and laboratory use are demonstrated.

Hospital Liquids, Inc.
Booth T-21

Shaw Parenteral Solutions and Haemovacs together with the latest in disposable sets are shown by Hospital Liquids, Inc. in booth T-21. Hospital administrators particularly will want to see this excellent display.

Hyland Laboratories
Booth A-7

Featured product in the exhibit of Hyland Laboratories, Los Angeles, California, is Pertussis Immune Serum (Human). This serum, supplied dried and irradiated, is obtained from hyper-immunized adult donors and used in passive prevention and treatment of whooping cough. Also of special interest are Hyland's Anti-Hemophilic Plasma (Human); Normal Human Plasma, both liquid and dried; a complete line of blood grouping and typing serums; and other blood diagnostic reagents.

Ives-Cameron Company, Inc.
Booth O-20

Ives-Cameron Company, Inc. invite you to visit their booth where trained representatives will gladly discuss their Council-accepted products with you.

Lafayette Pharmacal, Inc.
Booth V-17

Pantopaque (ethyl iodophenylundecylate), a new contrast medium developed especially for myelography, is the highlight here. Pantopaque is particularly satisfactory for the study of the lumbar region. The entire myelographic examination may be completed in 20 minutes.

Lakeside Laboratories, Inc.
Booth Q-2

In Q-2 Lakeside Laboratories highlight their new oral diuretic Neohydrin and parenteral Mercuhydrin Sodium. Members of Lakeside's sales department are on hand to discuss the products.

Lanteen Medical Laboratories, Inc.
Booth A-18

Informed representatives in booth A-18 will be glad to discuss with you the improved Lanteen Technique of Contraception, combining the use of the Lanteen Flat Spring Diaphragm with Lanteen Jelly. The entirely new line of plastic containers may be seen at the exhibit. Be sure to ask for your physician's package.

Lederle Laboratories Div.
Booths E-11, 13

You are cordially invited to visit booths E-11 and E-13 where you will find representatives who are prepared to give you the latest information on Lederle products.

Eli Lilly and Company
Booths D-14, 16, 18

A new antibiotic, Ilotycin (Erythromycin, Lilly) is featured here. Cardiac drugs, decongestants, antihistamines, antithyroid drugs and aids for the diabetic are also shown. Lilly salesmen welcome your questions about these and other recent therapeutic developments.

Mallinckrodt Chemical Works
Booth I-31

Representatives in attendance at the Mallinckrodt booth, I-31, welcome an opportunity to discuss the chemical products on display, or other Council-accepted products manufactured by the company. Stop by and become further acquainted.

V 1
195

The S. E. Massengill Co.
Booth A-31

The Massengill exhibit presents the results of a three-year study investigating blood levels of theophylline following oral dosage of aminophylline. Charts show new results obtained through the use of various antacids administered simultaneously with aminophylline, including clinical data. The exhibit features Massengill Aminophylline but is in the nature of a research laboratory report.

McKesson & Robbins, Inc.
Booth T-5

The central theme of McKesson & Robbins exhibit, booth T-5, features Council-accepted vitamin products along with laboratory demonstrations of the modern technique of vitamin assays. Another important feature is an exhibit on sunburn and sun tanning. Tartan Suntan Lotion and a complete line of Tawn cosmetic preparations accepted by the A. M. A. Committee on Cosmetics are presented.

McNeil Laboratories, Inc.
Booths G-2, 4

Butisol Sodium, Syndrox Hydrochloride, Orextralyn, and Metha-Merdiazine are among the Council-accepted pharmaceutical preparations exhibited by McNeil Laboratories. Representatives attending McNeil's newly constructed exhibit extend a warm welcome to their many professional friends.

Merck & Co., Inc.
Booths G-5, 7

Hydrocortone and Cortone are featured in the Merck booth. Conditions in which they have proven of service include: rheumatoid arthritis; intractable bronchial asthma; acute rheumatic fever; inflammatory eye diseases; and many dermatologic conditions, both allergic and nonallergic. Hydrocortone Acetate is of particular service in relieving the pain and stiffness of individual rheumatoid and osteoarthritic joints when given by intra-articular injection. Other featured products are Mephyton, an antidote to anticoagulant-induced hypothrombinemia; and Nalline, a dependable narcotic antidote.

The Wm. S. Merrell Company
Booth A-2

What is the orally-administered estrogren having fat-storage properties? What usefulness does it have in the palliative containment of prostatic carcinoma? These and other questions about Tace, a new hormone treatment, are answered by members of the Merrell medical research staff and sales representatives in booth A-2.

Monsanto Chemical Co.
Booth E-22

Problems of obesity and diabetes have heightened interest in non-nutritive sweeteners. Monsanto displays the story of saccharin and its use in low calorie desserts and foods. A booklet of more than 70 recipes of desserts and other foods using saccharin is available at the booth. Doctors are invited to request quantities for distribution to diabetic and obese patients.

The National Drug Company
Booth M-8

Resinat, an essentially non-toxic anion exchange resin; Protinal Powder, a whole protein carbohydrate mixture; Diphtheria, Tetanus and Pertussis Vaccine, combined triple immunization, are included in National's vast array of Council-accepted biological and pharmaceutical preparations.

Nepera Chemical Co., Inc.
Booth Q-11

The Nepera display is devoted to their Council-accepted products. Included are: Mandelamine for urinary antisepsis in such indications as cystitis, pyelitis, and prostatitis; and Neohetramine, an antihistaminic agent which authorities declare to be notably low in side effects.

Organon, Inc.
Booth M-13

Organon features its many Council-accepted products: Oranixon (mephenesin), a muscle relaxant which quiets hyperexcitability without affecting normal reflexes; Doca Acetate (desoxycorticosterone acetate), a synthetic adrenal cortical extract whose scope in therapy is constantly being enlarged; Muracil (methyl thiouracil), one of the more effective yet less toxic antithyroid preparations; Liquaemin Sodium (heparin sodium), in regular and high-potency strengths for the more recent methods of administration; Dimenformon Benzoate (pure estradiol benzoate), for use when a potent natural estrogen is needed; and Lynoral (ethinyl estradiol), the most potent estrogen in clinical practice today.

Ortho Pharmaceutical Corp.
Booths A-30; S-17

"The physician's responsibility in marriage counseling" is the theme of one of Ortho's exhibits. This dramatic and provocative subject should be of interest to physicians. Ortho's other exhibit highlights its diagnostic products, such as Rh-Hr anti-sera, which have been received by many laboratories and blood banks.

Parke, Davis & Company
Booths J-13, 15, 17

A cordial welcome awaits you at the Parke-Davis booth. Members of the P-D medical service staff are on hand to greet you and to discuss their well-known specialties.

The E. L. Patch Company
Booth H-5

Medical service representatives and officials of The E. L. Patch Company are on hand in booth H-5 to welcome visiting physicians and to furnish information regarding Patch products. Among the products featured are Council-accepted Alzinox, Patch brand of Dihydroxy Aluminum Aminoacetate, and Glytheonate, Patch brand of Theophylline-Sodium Glycinate.

Chas. Pfizer & Co., Inc.
Booths C-15, 17, 19

Service to medicine is the dominating theme of the Pfizer exhibit. This service is demonstrated in basic research leading to the development of pharmaceutical products and in new methods of communication including *Spectrum*. Aids to medical education include the medical student program and scholarship fund. The exhibit (to the left of the center aisle at booths C-15, C-17 and C-19) is attended by members of the Pfizer Medical Service Department and Professional Service Representatives.

Pharmacia Laboratories, Inc.
Booth T-7

Pharmacia Laboratories, Inc. are exhibiting their newly Council-accepted product, Azulfidine, indicated in the treatment of ulcerative colitis. Reprints of new articles on Azulfidine are available at booth T-7 on the 3rd floor.

Pitman-Moore Company
Booth K-1

Pitman-Moore Company features several new developments in its pharmaceutical and biological lines. Representatives at the exhibit extend a cordial invitation to all physicians to visit the Pitman-Moore booth during the meeting.

Plough, Inc.
Booth D-20

This exhibit calls attention to the advantages of St. Joseph Aspirin for Children as advertised in *THE JOURNAL A. M. A., AMERICAN JOURNAL DISEASES OF CHILDREN* and *PEDIATRICS*. Representatives at the booth discuss how each tablet permits flexibility and greater accuracy of dosage in salicylic therapy for children; and how it eliminates the need for cutting and breaking the adult size when administered to infants and children. Other advantages include a pleasant orange flavor, smooth texture, and rapid disintegration.

Premo Pharmaceutical Labs., Inc.
Booth I-22

Premo employ novel methods to demonstrate their patented Drain-away feature. Drain-away vials are used in manufacturing Procaine Penicillin for aqueous injection. Soluble Penicillin tablets—Nebutabs—the original soluble Penicillin tablet and first soluble Penicillin tablet to be accepted by the Council on Pharmacy and Chemistry of the American Medical Association, is demonstrated in conjunction with other Premo Products.

Reed & Carnrick
Booth S-1

Physicians are invited to booth S-1 to discuss the new Meprane schedule for estrogen replacement in the relief of menopausal symptoms. An increasing or decreasing schedule followed by maintenance therapy for adequate symptomatic control is suggested. Descriptive literature is available, and representatives at the booth will be glad to serve you in any way possible.

Rexall Drug Company
Booth R-5

The Rexall Drug Company is celebrating its 50th Anniversary in the manufacture of fine pharmaceuticals, including U. S. P. and N. F. products. There are 10,000 independent Rexall Drug Stores in the United States and Canada who stand ever-ready to give your prescriptions the individual attention and exact compounding each requires. Featured in the booth are buffered, pleasantly flavored penicillin tablets and other products accepted by the A. M. A. Council on Pharmacy and Chemistry. Proofs of the ethical types of advertising Rexall has sponsored in the *JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION* are shown.

Riker Laboratories, Inc.
Booth K-14

Riker Laboratories, Inc. presents Veriloid (Brand of Alkavervir) Intramuscular and Intravenous Solutions. Veriloid, a powerful hypotensive agent, provides means of reducing the blood pressure in a matter of minutes. It is indicated whenever the symptoms of hypertension must be controlled rapidly, as in hypertensive crisis, malignant hypertension, toxemia of pregnancy, pre-eclampsia and eclampsia. Veriloid solutions reduce blood pressure by central action.

A. H. Robins Company, Inc.
Booth I-16

The A. H. Robins Company, who is celebrating its 75th year of service to the medical profession, extends a cordial invitation to visit booth I-16, featuring Robalate, N. N. R., antacid-demulcent, indicated in peptic ulcer therapy and hyperacidity. The pharmaceutically elegant tablets, each containing 0.5 Gm. dihydroxy aluminum aminoacetate, are notable for exceptional palatability and smooth, non-chalky texture.

William H. Rorer, Inc.
Booth S-25

William H. Rorer, Inc. is displaying Carfusin, a Council-accepted Castellani Paint formula. Carfusin is quantitatively labeled and is stable. Because of this stability, the fuchsin content, which is otherwise so often precipitated or filtered out, remains in solution with resultant good therapeutic activity when Carfusin is prescribed for fungus infections such as "athlete's foot."

Rystan Company, Inc.
Booth D-24

Rystan features Council-accepted Chloresium Ointment and Chloresium Solution (Plain), containing purified, non-toxic water-soluble derivatives of chlorophyll. In the topical treatment of wounds, burns, ulcers and dermatoses, these therapeutic chlorophyll preparations promote the normal growth of healthy granulation tissue, relieve itching and irritation, and deodorize malodorous lesions. Reprints of published clinical and laboratory studies on chlorophyll therapy are available; and representatives will be pleased to discuss specific applications of these preparations.

Sandoz Pharmaceuticals
Booth L-1

With pride and pleasure, Sandoz Pharmaceuticals invite you to visit their scientific type exhibit in booth L-1. Representatives at the booth will be pleased to welcome you.

Schenley Laboratories, Inc.
Booth R-4

Titralac, a unique antacid preparation, highlights the Schenley exhibit. Combining the buffering action of glycine with the neutralizing properties of calcium carbonate, Titralac provides an acid-inactivating property singularly like that of milk. Useful in hyperacidity and peptic ulcer, it is available in tablet, liquid and powder forms.

Schering Corporation
Booths G-10, 12, 14

Members of the American Medical Association and their guests are invited to the Schering booth where medical and professional service staffs will be pleased to greet you and discuss the products in which you may be interested. Especially featured are Cortogen and Chlor-Trimeton.

Schieffelin & Co.
Booth P-11

Schieffelin specialties on exhibit include: Benzestrol, a non-stilbene, orally effective, synthetic estrogen; Merbak, a topical mercurial antiseptic having high bactericidal activity, as well as bacteriostatic action; and Solu-Plastin, a stable solution of thromboplastin for use in the determination of prothrombin activity. Of particular interest are new products of Schieffelin research.

Julius Schmid, Inc.
Booth F-20

Julius Schmid, Inc. have prepared an interesting and informative exhibit on their meritorious products—Ramses Flexible Cushioned Diaphragm, Ramses Vaginal Jelly and other Ramses gynecological products which enjoy A.M.A. Council acceptance. Introduced to the medical profession more than three decades ago, the Ramses line today is better than ever because of the firm's continuous research and improvement.

G. D. Searle & Co.
Booths D-10, 12

You are cordially invited to visit the Searle booths, D-10 and D-12, where members of their medical and medical service staffs are on hand to answer your questions pertaining to Searle products of research. Featured are the newer dosage forms of Banthine, a standard in anticholinergic therapy; Dramamine, for the control of nausea; Alidase, for improved absorption of fluids; and Metamucil, for the physiologic correction of constipation and other gastrointestinal dysfunctions.

Sharp & Dohme, Inc.
Booths A-19; B-8

The Sharp & Dohme exhibit presents an interesting symposium on Benemid Probenecid. Benemid, through a reversible action, interferes with the enzymatic metabolism and inhibits the renal tubular excretion of certain organic compounds such as penicillin. It also acts as a urate eliminant by depressing the renal tubular resorption of urate, thus increasing the urinary excretion and reducing the serum level of uric acid. Its use in increasing the effectiveness of orally administered penicillin and as a urate eliminant in chronic gout is portrayed.

Smith, Kline & French Laboratories
Booth C-10

Specially trained S.K.F. professional representatives are at your service in booth C-10. They will be pleased to tell you about their Council-accepted and exempted products; and to answer any questions you may have concerning the possible use of these items in your practice.

E. R. Squibb & Sons
Booths D-9; E-14, 16, 18, 20

Squibb is again sponsoring an informative and colorful exhibit at this A.M.A. Session. Squibb officials and professional service representatives are on hand in booths D-9, E-14, E-16, E-18 and E-20 to greet their many friends in the medical profession.

R. J. Strasenburgh Co.
Booth M-20

Mental depression may give rise to influences and have effects which extend far beyond the individual patient. As an accepted tool for further exploration of this difficult problem, and as a recognized aid in treatment, Raphetamine Phosphate, brand of racemic amphetamine phosphate monobasic, is featured at the R. J. Strasenburgh exhibit, M-20.

Strong, Cobb & Company, Inc.
Booth I-8

Ampins (automatic ampule injectors) are ampule, syringe and needle—all in one pre-sterilized unit, ready for immediate use. Also of interest in I-8 is a new aluminum Emergency Kit, containing many of the commonly used emergency drugs, including morphine and codeine.

Testagar & Co., Inc.
Booth M-24

The professional service representatives of Testagar & Co., Inc. will be pleased to welcome their friends to view many new developments in the pharmaceutical field, shown in booth M-24. Literature on some of these recent developments, including injectable specialties, are available. Your free sample samples and technical information are invited.

Marvin R. Thompson, Inc.
Booth N-5

Physicians are invited by Marvin R. Thompson, Inc. to view their outstanding preparations on display: injection of Quinidine Sulfate-MRT, for intramuscular use; Sulfadiazine with Sodium Lactate-MRT; and Sulfa-tri-Azine with Sodium Lactate-MRT. The two sulfa preparations contain concomitant alkali in a 3 to 1 proportion. Syrup Vitamin D Complex-MRT, each teaspoonful equivalent to 30 five grain brewers yeast tablets, is also exhibited.

U. S. Vitamin Corp.
Booth B-3

Shown here are a new "oil-in-water" demonstration of Aquasol Vitamin A Drops and a special demonstration of a new, compact automatic ampul filling and sealing machine. While at the exhibit, taste for yourself a new and different sodium-free salt substitute, Co-Salt, which actually tastes like salt, looks like salt and sprinkles like salt—a boon to your patients on restricted sodium intake.

VanPelt and Brown, Inc.
Booth V-18

Visitors to the VanPelt and Brown display will see an interesting exhibit of its Council-accepted specialties, including Oradiol, Trifonamide and Vanzoate Lotion. Representatives on hand will gladly answer all questions regarding the products on display.

Walgreen Drug Stores
Booth A-10

Prescriptions grow in importance every day as medical science discovers new drugs. Well aware of this growing importance, Walgreen's feature the Walgreen Pharmacist, who keeps abreast of these new scientific developments as they occur. His training and experience—combined with up-to-the-minute pharmacy knowledge—assures a uniformly dependable prescription service. Professional representatives at the exhibit will be happy to serve in every way possible—to "compound" a happy convention for you.

Walker Laboratories, Inc.
Booth I-26

Presented here is Hedulin, a new oral anticoagulant, rapid-acting, economical and substantially safe for treatment in hypoprothrombinemia. Council-accepted Hedulin differs chemically from oral anticoagulants in general use. It is not a coumarin derivative and is unlikely to induce the adverse effects often attributed to this class of compounds. Clinical investigation has shown this drug to be free from cumulative effects, rapid-acting and with the favorable characteristic of returning prothrombin time to normal within 24 to 48 hours after withdrawal.

Wallace & Tiernan Prod., Inc.
Booth J-5

Wallace & Tiernan Products, Inc. is featuring Desenex fungistatic ointment and powder; Sodium Sotradecol, an effective Council-accepted sclerosing solution; Azochloramid for topical antisepsis; Monomestrol, a synthetic estrogenic preparation; and Salundek, a new treatment for tinea capitis in children. Representatives are on hand to welcome you and to discuss these pharmaceutical specialties.

Henry K. Wampole & Company, Inc.
Booth T-9

Sulfatryl with Sodium Citrate Dry Flavored Granules for Suspension is a preparation of the triple sulfonamide mixture, Meth-Dia-Met Sulfonamides, N.N.R. (1:1:1 ratio) based on the sulfonamide solubility principle. Sulfatryl Granules insure uniform triple sulfonamide suspension because each prescription is freshly prepared. Addition of 60 cc. distilled water to the prescription bottle quickly makes 90 cc. of a smooth, fresh, absolutely uniform suspension. Well informed representatives at the exhibit will appreciate the opportunity to discuss with you the merits of this outstanding product.

Warner-Chilcott Laboratories
Booth B-7

This Annual Session finds two well-known and long established pharmaceutical companies merged. William R. Warner and Chilcott Laboratories recently combined to form Warner-Chilcott Laboratories. Two new cardiovascular agents are featured at the booth. Medical personnel will welcome an opportunity to discuss Methium, an effective new oral hypotensive; and Peritrate, a coronary vasodilator, for prophylaxis in angina pectoris.

The Warren-Teed Products Company
Booth I-39

Sinan (brand of Mephenesin Warren-Teed) used in the treatment of certain spastic and neuromuscular disorders is featured at this exhibit. The pharmacological action of Sinan is dramatically demonstrated through the medium of fluorescent paints activated by alternating white and ultraviolet light. Courteous representatives are in attendance to assist registrants in any way possible.

(Continued in Advertising pages)

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ORGANIZATION SECTION

FEDERAL MEDICAL LEGISLATION

Federal Board of Hospitalization

Senator Griswold (R., Neb.) proposes in S. 1436 the establishment of a federal board of hospitalization "to be composed of the Attorney General of the United States, the Secretary of Defense, the Secretary of the Interior, the Director of the Bureau of the Budget, the Federal Security Administrator, the Administrator of General Services Administration, and the Administrator of Veterans' Affairs. . . ." The bill also provides that "The Board shall initiate studies of and analyze and review the hospital, convalescent, and domiciliary activities of all departments and agencies of the Federal Government in order (1) to prevent overlapping, duplication, and overbuilding of such facilities; (2) to insure the most efficient and complete utilization of the total hospital, convalescent, and domiciliary facilities of the Federal Government by each department and agency; (3) to determine the need for existing or additional hospital, convalescent, and domiciliary facilities of each department and agency; (4) to determine the area and locality in which such additional facilities should be provided; (5) to determine the extent to which non-Federal facilities may be used to supply beds for any department or agency; (6) to develop a complete overall plan relative to facilities for providing within or through the Veterans Administration adequate hospitalization and domiciliary care for persons who have served in the Armed Forces of the United States; and (7) to make studies and recommendations with respect to such matters as may be referred to the Board by the President, or by any member of the Board."

This measure was introduced at the request of the American Legion and referred to the Committee on Government Operations.

Waiver of Social Security Premiums for Disability

Congressman Kean (R., N. J.) proposes in H. R. 4160 to exclude periods of total and permanent disability in computing eventual retirement benefits under the Old Age and Survivor's Insurance Program. The term disability is defined as "(A) inability to engage in any substantially gainful activity by reason of any medically determinable physical or mental impairment which can be expected to be permanent, or (B) blindness." Benefits (waiver of premiums) would not be allowed for a period of disability less than six months.

The bill further states: "No individual without his consent shall be required by the Administrator to undergo a physical examination to establish the facts as to his disability, but an individual shall not be considered to be under a disability unless he furnishes such proof of the existence thereof as may be required. Nothing in this title shall be construed as authorizing the Administrator or any other officer or employee of the United States to interfere in any way with the practice of medicine or with relationships between practitioners of medicine and their patients, or to exercise any supervision or control over the administration or operation of any hospital."

The OASI pensions increased by this measure would come from the Social Security Trust Fund, maintained by payroll taxes from the employer and employee. There is no provision in this bill to increase the social security contributions made by employers and employees. The trust fund would be used also for two additional purposes: (1) to pay governmental or private agencies or organizations for services in determining the existence, continuation, and termination of disability and (2) to relieve the states of any cost of rehabilitation if within the first six months a state cooperating with the federal government under the Vocational Rehabilitation Act certifies that the person appears to be rehabilitable to gainful employment. The bill was referred to the Committee on Ways and Means.

Federal Aid to Voluntary Health Plans, Medical Education, and Health Facilities

Congressman Scott (R., Pa.), proposes in H. R. 4128 to give federal financial assistance to states to help in financing (1) voluntary prepayment health service plans, (2) local health departments, and (3) hospitals, medical schools, and nursing schools. Provision is made for the establishment of a "bi-partisan commission to be known as a Federal Health Study and Planning Commission . . . to (A) develop accurate and current information as to the nature and extent of such needs in the various areas in the United States, and (B) to make possible the intelligent formulation of long-range plans for achieving adequate health service throughout the whole of the Nation with such Federal assistance as is compatible with the principles of local responsibility." Identical bills have been introduced by Senators Ives and Flanders, S. 1153; Congressman Hale, H. R. 3582; and Congressman Javits, H. R. 3586. The measure was referred to the Interstate and Foreign Commerce Committee.

Parity for Department of Health, Education, and Welfare

Congressman Hoffman (R., Mich.) in H. R. 4116, would make the statutes pertaining to all government departments applicable also to the Department of Health, Education, and Welfare. This bill was referred to the Government Operations Committee.

Lengthening Presumption of Service Connection Period for Chronic and Tropical Diseases

Congressman Elliott, in H. R. 4155, proposes to increase from one to two years the period of time following discharge from military services during which chronic and tropical diseases would be presumed to be service connected. The bill is similar to H. R. 25 (Rogers), H. R. 1573 (Battle), and S. 609 (Sparkman), which propose to raise the period to three years instead of the present one. The measure was referred to the Veterans Affairs Committee.

STATE MEDICAL LEGISLATION

California

Bills Introduced.—A. 2237, to amend the education code, proposes that **instruction upon the nature of alcohol and narcotics** and their effects upon the human system as determined by science shall be included in the curriculum of all elementary and secondary schools. A. 2752, to amend the business and professions code relating to the **use of "Dr." or "doctor,"** proposes that, notwithstanding any provision of the chiropractic act or the osteopathic act, every person practicing the healing arts using the title "doctor" or the letter or prefix "Dr." must designate the particular degree he holds by listing the letters commonly used to signify such degree immediately after his name and in no lesser prominence than his name or the title "doctor." S. 1183, proposes the creation of a board for licensing **psychiatric technicians.** The proposal would provide that a person practices as a psychiatric technician who, under the supervision of a licensed physician, performs certain designated services in caring for the mentally ill, mentally deficient, or mentally disordered for compensation for personal profit.

Delaware

Bill Introduced.—H. 22, proposes an appropriation to the state board of health to be used for **services to crippled children** of the state for case finding, medical, surgical and medical social service, hospitalization, rehabilitation, and follow-up in a cooperative program between the Governor Bacon Health Center and the state board of health.

Georgia

Bill Introduced.—H. 639, proposes the creation of a **Georgia board of massage.** A masseur is defined as one who practices the art of body massage, either by hand or with any mechanical or electrical apparatus for the purpose of body massaging, reducing, or contouring, the use of oil rubs, salt glows, hot and cold packs, tub, shower, sitz and similar baths, and cabinet baths.

The summary of federal legislation was prepared by the Washington Office of the American Medical Association and the summary of state legislation by the Bureau of Legal Medicine and Legislation.

Hawaii

Bills Introduced.—H. 666, proposes to authorize the directors of institutions, when he shall be of the opinion that it is for the best interests of the patient and of society that **a patient should be sexually sterilized,** to direct the performance by some capable physician or surgeon of the operation of sterilization on such patient confined in such hospital, afflicted with feeble-mindedness or heredity forms of mental illness that are recurrent, after complying with the notice and hearing requirements of the proposal. H. 703, proposes the establishment of a **division of hospitals** for the territory which shall study and consider problems relating to hospital construction, hospital subsidies, inspections of hospitals, and licensing of hospitals.

Illinois

Bill Introduced.—S. 221, proposes regulations whereby persons who have or are suspected of having **tuberculosis in an active or communicable stage** and who are a threat to the public health may be confined for purposes of examinations and/or treatment.

Indiana

Bill Enacted.—S. 205, has become ch. 197 of the laws of 1953. It provides for the creation within the department of health of a division to be known as the **division of mental health.** In this division, there shall be created a mental health council composed of six members and one advisory member. Three of the members of the mental health council shall hold unlimited licenses to practice medicine in Indiana, and of these three two shall be certified by the American Board of Neurology and Psychiatry, and the third shall be a general practitioner. The mental health council shall act in an advisory capacity to the commissioner of the division of mental health on matters pertaining to personnel, hospital administration, medical and psychiatric care, and the public relations of the hospitals under the control of the division and in the mental health program of the division.

Maryland

Bill Introduced.—H. R. 65, proposes the creation of a commission to study means for establishing a **state blood bank.**

Massachusetts

Bills Introduced.—S. 597, proposes to authorize the department of public health to establish and maintain **muscular dystrophy clinics** and to otherwise provide services and treatment for muscular dystrophy and other similar diseases. S. 599, proposes to authorize the joint committee on legal affairs to make a **study and investigation pertaining to the adjudication of insanity,** commitment of insane persons to certain institutions under the department of mental health, the care of said persons, and their transfers, release, or discharge therefrom, with a view to recommending to the general court such changes therein or revisions thereof as it may deem necessary or advisable.

Michigan

Bills Introduced.—H. 342, proposes that **no autopsy** or post mortem or dissection shall be performed upon the body of a deceased person **except by a licensed physician** who has been granted written consent therefor by whichever one of the following assumes custody of the body for purposes of burial: father, mother, husband, wife, guardian, next-of-kin, or in the absence of any of the foregoing, a friend or a person charged by law with the responsibility for burial. H. 364, proposes the enactment of a **hospital licensing law.** H. 393, proposes to amend the **medical practice act** by providing that on Nov. 1, 1953, and for a period of five years thereafter, any person required to make application for registration and to obtain a certificate of registration to practice medicine, and who is not a citizen of the United States but has applied for naturalization under the laws of the United States more than two years prior to his application for registration, shall be deemed to have complied with citizenship requirements if his application for naturalization is valid and pending at the time of application for registration. H. 411, proposes that every director or laboratorian in charge of any laboratory registered with the Michigan Department of Health making chemical, serological, and/or bacteriological laboratory tests shall give notice in writing in accordance with the rules and regulations of the state health commissioner of every positive or doubtful laboratory test for **syphilis, gonorrhea, chancroid, lymphogranuloma venereum, and granuloma inguinale** performed by said registered laboratory. H. 412, proposes to require every **physician,** dentist, pathologist, director of a pathological laboratory, or clinic director **who has knowledge of a case of cancer** to report the same within 10 days to the state health commissioner. H. 413, proposes regulations whereby a state health officer or the state health commissioner may obtain the **commitment of certain persons afflicted with tuberculosis** who are unable or unwilling to submit to examination so as to prevent such person from directly or indirectly conveying the disease to susceptible persons. H. 428, proposes to authorize the governing body of any city or township to provide **group life, health and accident, and or hospitalization insurance** for voluntary personnel working under the authority of the city, township, or state civilian director without participation in the cost by and for the employees. S. 1261, to amend the medical practice act, proposes, among other things, to authorize the board the power to grant **temporary annual licenses to practice medicine,** surgery, and midwifery to doctors of medicine who are residents of the state but who are Canadian citizens and graduates of approved colleges of medicine of the Dominion of Canada who make affidavit of their intention to apply for and accept citizenship in the United States, provided, however, that such temporary annual licenses shall be renewable for a period of not to exceed five years. The proposal would also authorize the board to grant temporary annual licenses to doctors of medicine who having entered the United States under the displaced persons act and who apply to be registered and certified and who satisfactorily comply with the registration requirements except the requirement of the United States citizenship, in lieu of which the applicant shall furnish satisfactory proof of having declared the intention of becoming a citizen or having filed a petition for naturalization. Such temporary annual licenses would be renewable for a period of not more than five years. S. 1289, proposes to make it unlawful for any firm, person, or corporation to sell or offer to sell **prophylactic articles** with certain exceptions. All persons, firms or corporations, or associations selling prophylactic articles or drugs shall be licensed by the Michigan Department of Health for a license fee of $500. S. 1293, proposes the creation of a **medical examiner system** and proposes to vest in the state medical examiner and county medical examiners and their deputies all the powers and duties vested by law in the office of coroner. Immediately upon taking effect of this proposal, the office of coroner would be abolished.

Minnesota

Bill Enacted.—H. 804, has become ch. 134 of the laws of 1953. It amends the law relating to the powers of the state board of health by providing, among other things, that the board shall make regulations relating to the **prevention of infant blindness** in connection with the eyes of the newly born by the designation, from time to time, of one or more prophylactics to be used in such cases and in such manner as the board may direct, unless specifically objected to by the parents or a parent of such infant.

Missouri

Bill Introduced.—H. 357, proposes to require the superintendent of each state hospital and state training school to cause to have made **physical and mental examinations of each patient** every six months in order to determine whether such patient is ready for parole or discharge.

Nevada

Bill Introduced.—S. 212, proposes that a medical doctor serving in any branch of the armed forces as a commissioned medical officer, who has in a regular manner obtained the degree of doctor of medicine from some legally chartered medical institution in the United States or Canada, and who holds a license to practice medicine secured by examination from any state or territory in the United States, and who also holds a certificate of having passed a professional medical examination for the medical corps of the armed services, and who, on the effective date of this proposal is a bona fide resident of the state of Nevada, **shall be granted a license to practice medicine** upon payment of the fee for a license **upon reciprocity.**

Bills Enacted.—S. 55, was approved March 25, 1953. It amends the law relating to the powers of the state board of health by authorizing such board from time to time to promulgate rules and regulations governing the **control of communicable diseases** and to list those diseases, cases of which shall be reportable and shall set forth the procedures of isolation and quarantine in any that shall be in effect for each reportable disease. Cases of **reportable diseases** shall be reported immediately by the attending physician to the local health officer. S. 133, has become ch. 100 of the laws of 1953. It provides that **a statement of fact or opinion** on a subject of science or art contained in a published treatise, periodical, book, or pamphlet shall, in the discretion of the court, and if the court finds that it is relevant and that the writer of such statement is recognized in his profession or calling as expert on the subject, be admissible in actions of contract or tort for **malpractice, error, or mistake against physicians,** surgeons, dentists, optometrists, osteopathic physicians and surgeons, chiropractors, chiropodists, naturopathic physicians, hospitals, and sanitariums, as evidence tending to prove said fact or as opinion evidence; provided, however, that the party intending to offer any such statement shall, not less than three days before the trial of the action, give the adverse party notice of such intention, stating the name of the writer of the statement and the title of the treatise, periodical, book or pamphlet, in which it is contained. S. 175, was approved March 25, 1953. It amends the medical practice act by, among other things, providing that no certificate shall be issued to any person who is not a citizen of the United States or "Canada, if he has declared his intention to become a citizen of the United States." The same amendment was made relating to the issuance of temporary permits to persons serving as resident medical officers in Nevada hospitals.

New Mexico

Bill Enacted.—H. 164, was approved March 18, 1953. It provides that in the event of any emergency the state board of examiners in the basic sciences and the secretary of the board of medical examiners may issue **temporary licenses or permits** to practice medicine and surgery in the state. An emergency is defined as the inability of the local physicians and surgeons in any community to meet conditions affecting the public health when they arise suddenly and unexpectedly by reason of fire, flood, explosion, epidemic, pestilence, or like disaster or through some unusual occurrence or condition which, in the judgment of a majority of the board constitutes an emergency. Such temporary licenses may also be issued to physicians who are in temporary attendance at an organized youth camp or school for a period of not to exceed three months.

Utah

Bills Enacted.—H. 253, was approved March 13, 1953. It directs the industrial commission to appoint a state council which shall confer quarterly for the purpose of studying the **Utah workmen's compensation and occupational disease laws,** the administration thereof, and the rules and regulations promulgated thereunder, and all problems of the commission, including rehabilitation and reemployment of employees who are disabled because of an industrial injury or occupational disease. S. 248, was approved March 19, 1953. It provides for the creation of a **nursing school accreditation board of review** to hear and determine appeals from decisions of the committee coming within the purview of the chapter and relating to the accreditation or disaccreditation of institutions conducting schools of nursing or courses for the training of practical nurses.

MEDICAL NEWS

ALABAMA

Annual Clinical Society Meeting.—The John A. Andrew Clinical Society in cooperation with the staff of the VA Hospital will hold its 35th annual meeting April 12-18 at the John A. Andrew Memorial Hospital, Tuskegee Institute. Fifty-one of the seventy-eight guest essayists and clinicians are from outside the state. Clinics will be held Monday through Friday beginning at 7:30 a. m. Tuesday afternoon there will be a symposium on psychosomatic medicine offered by the Medical-Neuropsychiatric Services of the VA Hospital. Technical exhibits will be on display.

Pediatric Society Meeting.—The annual meeting of the Alabama Pediatric Society will be held April 15 at the Mountain Brook Country Club, Birmingham. At the morning session Dr. Alexis F. Hartmann, St. Louis, will speak on "Review of Essentials of Carbohydrate Metabolism with Special Regard to Orientation of Clinical Problems" and Dr. M. Remsen Behrer, St. Louis, on "Diabetic Acidosis: Correlation of Clinical Appearance, Electrocardiograms, and Blood Electrolyte Changes During Recovery." The afternoon session includes a talk by Dr. Behrer on "Problems of Severe and Persistent Disturbances of the Gastrointestinal Tract," and a discussion of "Hypoglycemia: Clinical and Physiologic Considerations" by Dr. Hartmann. The annual banquet will be held at 6 p. m. at the Birmingham Country Club.

COLORADO

Personal.—Dr. Ben B. Beshoar, Trinidad, who recently reached the mandatory retirement age as postmaster, has resumed medical practice.——Dr. Hortensia R. Del Marmol, head of the anesthesiology department at Colorado General Hospital, Denver, has given up her position to go to Germantown, Pa., where she will receive religious training to become a nun. Dr. Del Marmol expects eventually to go to Rome to serve the underprivileged.

Tuberculosis Meeting.—The Colorado Tuberculosis Association and the Colorado Trudeau Society will hold their annual meetings April 17-18 at the Albany Hotel, Denver. Dr. David T. Smith, associate professor of medicine, Duke University School of Medicine, Durham, N. C., will report on "An Explanation of the Apical Localization of Reinfection Tuberculosis." Dr. Smith, past president of the National Tuberculosis Association, will also address the dinner meeting on "New Concepts and Methods for the Control and Elimination of Tuberculosis." Dr. Gardner Middlebrook, director of research and laboratories, National Jewish Hospital, Denver, will speak on "Isoniazid." Other presentations will include:

- Review of 45 Supra Clavicular Fat-Pad Biopsies, James H. Cuykendall, Denver.
- Use of Simplified Function Tests to Clarify Physiological Abnormalities, Leighton L. Anderson and J. Carroll Bell, Denver.
- Report on the 1953 Conference on Chemotherapy of Tuberculosis, Forrest W. Pitts, Denver.

FLORIDA

Pediatric and Orthopedic Seminars.—A joint seminar of the Dade County Pediatric and Orthopedic societies will be held at the Jackson Memorial Hospital, Dade City, and Variety Children's Hospital, Miami, April 23-25. Principal pediatric speakers will be Dr. Wolfgang Zuelzer, Children's Hospital, Detroit, who will speak on "Pediatric Pathology and Anemias" and Dr. John Caffey, Columbia University College of Physicians and Surgeons, New York, who will discuss "X-Ray Problems in Pediatrics."

Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education and public health. Programs should be received at least three weeks before the date of meeting.

INDIANA

Annual General Practice Meeting.—The annual meeting of the Indiana Academy of General Practice will be held at the Antlers Hotel, Indianapolis, April 15-16. Papers to be presented by out-of-state speakers include:

- Hematology and the General Practitioner, Joseph F. Ross, Boston.
- Management of Diabetes During Acute Complications, Garfield G. Duncan, Philadelphia.
- Public Relations for the General Practitioner, Mr. Leo E. Brown, Chicago.
- Movement of the Heart Valves and Cardiac Sounds, Harry L. Smith, Rochester, Minn.

Mr. C. Walter McCarty, editor, *Indianapolis News*, will speak on "Journalistic Obstetrics" at the luncheon Wednesday, 12 noon, Elks Club, fourth floor, and the Hon. George N. Craig, governor of Indiana, will be the luncheon speaker (same time and place) on Thursday. Thursday afternoon a panel on therapeutics will be presented in the ballroom. Thursday at 7 p. m. in the same room Kenneth McFarland, Topeka, Kan., will be the banquet speaker. The annual Founders lecture on "Early Diagnosis of Cancer of the G. I. Tract," will be delivered in the ballroom by Dr. John R. Paine, Buffalo, at 8 p. m. Wednesday before a joint meeting with the Indianapolis Medical Society.

MARYLAND

Kolson Lecture.—The Dr. Jack W. Kolson memorial lecture, sponsored by the house staff of Sinai Hospital of Baltimore, Inc., will be delivered April 17, 8:30 p. m., in Hurd Hall, Johns Hopkins Hospital, Baltimore, by Dr. George W. Thorn, professor of medicine, Harvard Medical School, Boston, on "Studies of the Adrenal Cortex."

Pediatric Seminar.—The department of pediatrics of the University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, will hold its annual pediatric seminar April 12, when the following program will be presented:

- Common Respiratory Infections in Pediatric Practice, Waldo E. Nelson, Philadelphia.
- Emotional Problems of Children Seen Frequently in Pediatric Practice, Leo Kanner, Baltimore.
- Immunization Procedures in Pediatrics, Aims C. McGuinness, Philadelphia.
- Common Urologic Problems in Children, Meredith F. Campbell, New York.

MASSACHUSETTS

University News.—Dr. Nicholas J. Fiumara has been appointed a lecturer in dermatology and syphilology at Tufts College Medical School, Boston.

Clinical Assembly in Boston.—The Massachusetts Academy of General Practice will hold its spring clinical assembly in Boston April 15. The morning session at the Massachusetts General Hospital will consist of a clinic on peripheral vascular diseases, at which the following presentations will be made by members of the hospital staff:

- General Remarks, Robert R. Linton.
- Varicose Veins and Varicose Ulcers, Charles V. Menendez.
- Thrombophlebitis, Gordon A. Donaldson.
- Obliterative Arterial Diseases, Edward Hamlin Jr.
- Peripheral Vascular Diseases Complicating Diabetes, Frank C. Wheelock.

The afternoon and evening sessions will be at the Hotel Shelton, 91 Bay State Road. Luncheon (1 p. m. in the salon) will be followed by a motion picture. Dr. Douglas T. Davidson Jr. will discuss convulsive disorders, and Dr. Leo Alexander, shock therapy. At the 7 o'clock dinner, Mr. Geoffrey Harwood, news commentator, will discuss "Background to the News." Checks for luncheon ($3) and dinner ($4) should be mailed to Dr. R. Adelaide Draper, 1107 Washington St., Dorchester 24.

NEW YORK

Society News.—The meeting of the East New York Medical Society, April 13, 8:45 p. m. in the Kings County Medical Society Building, will be addressed by Dr. Max Pomerance, Brooklyn, on "Clinical Significance of Heart Sounds and Murmurs," and Dr. Charles P. Storch, Brooklyn, on "Cardiac Fluoroscopy."

Jewish Hospital Alumni Day.—The annual alumni day of the Jewish Hospital of Brooklyn will be observed April 26 with a scientific session at the St. George Hotel at 3:45 p. m., followed by the annual dinner. The program will include the following papers:

Perpetual Search for the Ideal Antibiotic, Leo Loewe, Brooklyn.
Problem of Ductus Arteriosus with Reversal of Shunt, Frederick H. King, New York.
Chronic Leg Ulcers in Systemic Disease, Frances Pascher, Brooklyn.
Combined Radiation and Hormone Therapy in Mammary Carcinoma, George C. Escher, New York.

New York City

Hospital News.—At the Tumor Clinic Conference at the Harlem Hospital April 15, 10:45 a. m., Dr. Hayes Martin, attending surgeon, Memorial Center for Cancer and Allied Diseases, will deliver the final lecture of the season on "Head and Neck Surgery."

Harvey Lecture.—Dr. Robert F. Pitts, professor of physiology, Cornell University Medical College, will deliver the seventh Harvey lecture of the current series at the New York Academy of Medicine April 16, on "Mechanisms for Stabilizing the Alkaline Reserve of the Body."

Seminar in Hematology.—The Mount Sinai Hospital will present, as a joint seminar with the pediatric department, "Megaloblastic Anemia of Infancy: Etiology and Pathogenesis" by Dr. Wolfgang W. Zuelzer, Detroit, April 15 at 8:30 p. m. in the Blumenthal Auditorium.

Friesner Lecture.—At 8:30 p. m. April 14, Dr. Richard J. Bing, professor of experimental medicine and clinical physiology, Medical College of Alabama, Birmingham, will deliver the Isidore Friesner lecture on "Metabolism of the Human Heart in Vivo" at Mount Sinai Hospital.

Meeting on Circulatory Disturbances.—The New York Society for Circulatory Diseases will hold a joint meeting with the New York Cardiological Society at 8:30 p. m., April 14, in room 440 of the New York Academy of Medicine building. Guest speakers will include:

Saul S. Samuels, Brooklyn, Arterial Insufficiency.
Jere W. Lord Jr., New York, Venous Obstruction and Insufficiency.
Jules D. Gordon, New York, Chronic Lymphedema.

Lectures on Irradiation Injury.—On April 17 the division of neoplastic diseases, Montefiore Hospital, will present "Modification of Acute and Chronic Irradiation Injury in Experimental Animals by Injection of Bone Marrow, and Tissues Originating from Hematopoietic Organs" by Egon Lorenz, Ph.D., chief, Laboratory of Biophysics, National Cancer Institute, Bethesda, Md., and "Clinical Radiation Effects" by Dr. Maurice Lenz, professor of clinical radiology, Columbia University College of Physicians and Surgeons.

NORTH CAROLINA

Annual General Practice Symposium.—The annual general practice symposium sponsored by the Rowan Davie County Chapter of the American Academy of General Practice will be held April 15 at Salisbury. The morning session at Rowan Memorial Hospital will be addressed by Dr. Charles W. Hock, Medical College of Georgia, Augusta, who will speak on "Melena and Hematemesis of the Upper Intestinal Tract" and by Ernest Carroll Faust, Ph.D., Tulane University of Louisiana School of Medicine, New Orleans, on "Intestinal Parasites in Children: Recognition and Evaluation." The Wednesday afternoon session will be held at King's Daughters' Hut. At 2 p. m. "X-Ray Diagnosis of the Acute Abdomen" will be discussed by Drs. Thomas G. Thurston and John E. Wear of Rowan Memorial Hospital. A paper on "Bleeding from the Lower Gastrointestinal Tract" by Dr. Hock will be followed by "Special Problems in the Management of Peptic Ulcer" from a color film, a presentation of the department of gastroenterology, the Lahey Clinic, written and directed by Dr. Everett D. Kiefer, Boston. At 4:30 p. m. there will be a clinicopathological conference. Dinner at the Yadkin Hotel Ballroom, 6:30 p. m., will be followed by a talk on "Present-Day Treatment of Intestinal Helminthiases" by Dr. Faust and discussion of "Diseases of the Biliary Tract" by Dr. Nathan A. Womack, professor of surgery, University of North Carolina Medical School, Chapel Hill.

Nalle Clinic Lectures.—The Nalle Clinic Foundation, Charlotte, will present a pediatrics lecture and the fourth Brodie C. Nalle lecture, April 17 at the Hotel Charlotte. At 5 p. m. Dr. Edward C. Curnen Jr., professor of pediatrics, University of North Carolina School of Medicine, Chapel Hill, formerly of Yale University School of Medicine, New Haven, Conn., will lecture on "Viral Infections of Man—Recent Advances in Diagnosis and Control," sponsored by the pediatrics fund of the Nalle Clinic Foundation. At 8 p. m. Dr. John L. Parks, professor of obstetrics and gynecology, George Washington University School of Medicine, Washington, D. C., will present "Gynecology in General Practice," under the sponsorship of the Brodie C. Nalle Fund of the Nalle Clinic Foundation.

OKLAHOMA

State Medical Meeting in Tulsa.—The Oklahoma State Medical Association will hold its annual meeting April 13-15 in the Cimarron Ballroom in the Akdar Theater Building (Fourth and Denver Streets) under the presidency of Dr. Alfred R. Sugg, Ada. Guest speakers include:

Allan P. Blossom, Houston, Texas, Resuscitation of the Newborn Infant.
Francis J. Braceland, Hartford, Conn., Early Detection of Emotional Disorders of Old Age.
F. Bayard Carter, Durham, N. C., Obstetric Deaths.
Garfield G. Duncan, Philadelphia, Practical Aspects in the Management of Diabetes.
Paul H. Holinger, Chicago, Bronchogenic Carcinoma.
Carl A. Moyer, St. Louis, Respiratory Failure During Surgery.
Alton Ochsner, New Orleans, Surgery of the Heart and Great Vessels.
James C. Sargent, Milwaukee, Bladder Tumors: Their Diagnosis and Treatment.
Wendell G. Scott, St. Louis, Radioactive Iodine 131 in the Treatment of Hyperthyroidism.

The guest speakers will participate in round-table luncheons Tuesday and Wednesday. Wednesday at 2 p. m. a symposium on industrial medicine will be held in the Ivory Room of the Mezzanine, the Mayo, with Dr. Frank L. Flack, Tulsa, as moderator. Motion pictures will be shown daily in the Mezzanine meeting room, 9:30-11:30 a. m. The president's inaugural dinner dance will be held at the Mayo, Tuesday, 7 p. m., $6.50 per person, which includes the hour preceding the dinner dance and the inauguration ceremonies.

SOUTH DAKOTA

Meeting of General Practitioners.—The South Dakota Chapter of the American Academy of General Practice will meet at the Marvin Hughitt Hotel, Huron, April 11-12. The program will be presented by members of the faculty of the University of Minnesota Medical School, Minneapolis. Dr. Roy G. Holly, Minneapolis, will discuss (1) anemia and (2) toxemia in pregnancy; Dr. Rodney F. Sturley, St. Paul, will speak on (1) pelvic floor anatomy and episiotomy, (2) posterior positions, and (3) cesarean section; and Dr. Donald W. Freeman, Minneapolis, will discuss x-ray pelvimetry. Sunday Dr. Freeman will talk on maternal mortality and intrauterine fetal death, and Dr. Holly on prenatal education and early ambulation.

TENNESSEE

State Medical Meeting in Memphis.—The Tennessee State Medical Association will hold its annual meeting at the Hotel Peabody in Memphis April 13-16 under the presidency of Dr. Daugh W. Smith, Nashville. The program of the out-of-state speakers includes:

Pancreatitis, William W. Shingleton, Durham, N. C.
Surgical Conditions of Thyroid, David H. Poer, Atlanta.
The College: Its Past, Present, and Future, Paul B. Hawley, Chicago.

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A symposium on disturbances in electrolytes will be presented Tuesday, 10:45 a. m. to 12 noon, with Dr. James D. Hardy, Memphis, as moderator, and Drs. Leland M. Johnston, Jackson, and J. Robert Bowman, Johnson City, as participants. On Tuesday afternoon the Tennessee Chapter of the American College of Surgeons will hold its annual meeting in conjunction with the state medical association. Dr. William M. Adams, Memphis, will serve as moderator for a symposium on burns at 2 p. m. Other medical groups will hold their meetings concurrently. On Monday the Tennessee Academy of General Practice will hold its annual banquet at the Peabody and on Wednesday will have as speakers Dr. Oscar Hansen-Pruss, Durham, N. C. (allergies) and Dr. Robert M. Salassa, Rochester, Minn. (diagnosis and treatment of hyperthyroidism). The Tennessee State Pediatric Society, which will meet on Monday in the Le Bonheur Children's Hospital, Memphis, will be addressed by Dr. Stewart H. Clifford, Brookline, Mass., and Dr. Edith L. Potter, Chicago. On Tuesday the Tennessee Radiological Society will hear Dr. Cesare Gianturco, Urbana, Ill., on "High Voltage Radiography in the Diagnosis of Colonic Polypi" and Dr. Adams will present a film reading session on "Late Radiation Sequellae." Both these presentations will be made at luncheon 12:30 p. m. The Tennessee Academy of Ophthalmology and Otolaryngology will meet on Monday, the Tennessee Diabetes Association on Wednesday, and the Tennessee Chapter of the American College of Chest Physicians on Thursday. The Woman's Auxiliary to the Tennessee State Medical Association will hold its meeting April 13-15.

WASHINGTON

Surgical Meeting in Spokane.—The Spokane Surgical Society is holding its annual meeting April 11 at the Davenport Hotel, with Dr. Carl E. Badgley, professor of surgery, University of Michigan Medical School, Ann Arbor, as guest speaker.

Society News.—The officers of the Pierce County Medical Society, all from Tacoma, are president, Dr. Robert M. Parrott; vice-president, Dr. Charles P. Larson; president-elect, Dr. Jesse W. Read; and secretary-treasurer, Dr. Gerald C. Kohl.

Cancer Symposium.—The Walla Walla Valley Medical Society and the Washington Division of the American Cancer Society will conduct a cancer symposium April 18, which will be preceded by a no-handicap golf tournament, starting at 8 a. m. at the Walla Walla Country Club. At 2 p. m. at the Marcus Whitman Hotel, the scientific meeting, with Dr. Charles P. Larson, Tacoma, as moderator, will be held. Speakers include:

J. Karl Poppe, Portland, Ore., Carcinoma of the Lung.
Quin B. deMarsh, Seattle, Leukemia.
Ralph H. Loe, Seattle, Carcinoma of Rectum and Sigmoid.
Dean K. Crystal, Seattle, Carcinoma of Stomach.

At 5 p. m. there will be a social hour to which wives are invited, to be followed by a no-host dinner at the hotel, with Dr. Crystal as dinner speaker.

Obstetric Meeting.—The Washington State Obstetrical Association is meeting April 11 at the Washington Athletic Club, Seattle. Dr. John L. McKelvey, University of Minnesota Medical School, Minneapolis, will open the session at 9:30 a. m. with "Study of the Effectiveness of Irradiation and of Surgical Attack in Adenocarcinoma of the Endometrium," followed by "The Conservative Trend in Therapeutic Abortion" by Dr. Nicholson J. Eastman, Johns Hopkins Hospital, Baltimore. The round-table luncheon, 12 noon, will have as moderator Dr. Russell R. deAlvarez, Seattle, who will also serve as moderator at the round-table at the banquet. Dr. McKelvey will address the afternoon session on "Practical Problems of Gynecological Plastic Procedures," and Dr. Eastman will speak on "Premature Spontaneous Rupture of the Membranes; Its Bearing on Maternal and Fetal Outlook."

WEST VIRGINIA

Meeting of Anesthesiologists.—The West Virginia Society of Anesthesiologists will meet at the Hotel Morgan, Morgantown, April 12. A business meeting at 11 a. m. will be followed by a subscription luncheon. Dr. Jacob J. Jacoby, professor of anesthesiology at Ohio State University College of Medicine, Columbus, will be guest speaker at the afternoon session. All interested physicians in West Virginia are invited.

GENERAL

American Psychosomatic Society.—This organization will hold its annual meeting April 18-19 at Chalfonte-Haddon Hall, Atlantic City, N. J. On Sunday afternoon there will be a panel discussion on "Psychophysiological Properties of the Adrenal Cortex: Recent, Unpublished Advances," at which Dr. Sydney G. Margolin, New York, will serve as chairman. Fifteen papers will be presented during the sessions.

Meeting of Anesthesiologists.—The Southern Society of Anesthesiologists will hold its annual meeting at the Atlanta-Biltmore Hotel, Atlanta, April 17-18. Single presentations will be made as follows:

Use of Aramine as a Pressor Agent During Spinal Anesthesia, Mary F. Poe, Memphis, Tenn.
Maintenance of Normal Physiology During Operation, Paul W. Searles, Chicago.
Postoperative Anesthesiology, Curtis W. Caine, Jackson, Miss.
Experiences with Cyclaine in Regional Anesthesia, Perry P. Volpitto, Augusta, Ga.
Use of Nitrous Oxide and Trilene for Cesarean Section, Lester Rumble Jr., Chamblee, Ga.

Meeting on Physical Education.—The Northwest District Convention of the American Association for Health, Physical Education, and Recreation will be held at the Florence Hotel, Missoula, Mont., April 15-18. Fred V. Hein, Ph.D., A. M. A. Bureau of Health Education, who is vice-president for health education, AAHPER, will be the featured speaker during the Friday afternoon session and a guest of honor at the student luncheon. At 1:30 p. m. he will speak on "Trends in Health Education" and will serve as a consultant for the panel discussion on "Opportunities for Health Education in Physical Education," which will follow his address.

Tufts Alumni Dinner.—The Tufts Medical Alumni Association will hold its annual dinner meeting April 15, 6:30 p. m., at the Somerset Hotel, Boston. The guest speaker, Dr. Louis H. Bauer, Hempstead, N. Y., President of the American Medical Association, will talk on "The American Medical Association and the Problems Facing Medicine." Nils Y. Wessell, Ph.D., acting president of Tufts College, will speak on "A Plea for Research in Medical Education," on which Dr. Joseph M. Hayman Jr., dean of the medical school, will make general comments. Dr. Christopher J. Duncan, associate surgeon-in-chief of the Free Hospital for Women in Brookline, will present "Reflections of the 25 Year Class." The 25 Year Class (1928) will hold its reunion on April 14 and 15. There will be open house at the medical school from 10:30 a. m. to 4 p. m.

Meeting of American College of Physicians.—This organization will hold its annual session at the Atlantic City, N. J., Convention Hall, April 13-17, under the presidency of Dr. T. Grier Miller, Philadelphia. Monday at 2:20 p. m. the James D. Bruce memorial lecture on preventive medicine: "Influenza; The Newe Acquayantance" will be delivered by invitation by Dr. Thomas Francis Jr., University of Michigan Medical School, Ann Arbor. Wednesday at 2 p. m. Dr. Charles H. Best, University of Toronto Faculty of Medicine, Canada, has been invited to deliver the John Phillips memorial lecture on "The Action of Insulin." At the annual convocation Wednesday, 8:30 p. m. in the ballroom, Dr. Miller will give the presidential address, and Dr. Roger I. Lee, Boston, will deliver the convocational oration on "Changing Trends in Internal Medicine." The president's reception and ball will be held at 10:15 p. m. in the Haddon Hall Hotel. The following symposiums have been scheduled: (1) emotional factors in disease, April 15, 9-10:30 a. m., Dr. William C. Menninger, Topeka, Kan., moderator; (2) tuberculosis, April 15, 9-10:30 a. m., Dr. James J. Waring, Denver, moderator; (3) cardiac surgery, April 17, 9-10:30 a. m., Dr. Charles C. Wolferth, Philadelphia, moderator; (4) anemia, April 17, 9-10:30 a. m., Dr. Charles A. Doan, Columbus, Ohio, moderator. Thursday a "dutch treat" and cocktail party in the lounge of the Hotel Chalfonte at 7 p. m. will be followed by the annual banquet in the Carolina Room. Dr. Hilton S. Read, Atlantic City, N. J., will serve as toastmaster, and Mr. Luther M. Schaeffer, Northampton, Pa., will deliver the address on "Superstitions of the Pennsylvania Dutch." Tickets should be procured before Wednesday noon.

DEATHS

Beach, Sylvester Judd ✦ Cape Elizabeth, Maine; born in Dedham, Mass., April 7, 1879; Harvard Medical School, Boston, 1905; practiced in Augusta from 1909 to 1920, and in Portland from 1920 to 1948; chairman of the Section on Ophthalmology of the American Medical Association, 1938-1939; member of the American Ophthalmological Society, serving as a member of the council from 1936 to 1940, vice-president in 1943, and president in 1944; life member, and from 1932 to 1935 member of the council of the American Academy of Ophthalmology and Otolaryngology; member of the council of the Association for Research in Ophthalmology; member and past president of the New England Ophthalmological Society; co-founder in 1945 and member of the executive committee from 1945 to 1948 of the Ophthalmological Study Council; founder of the Sight Savings Class of Portland; president of the Portland Medical Club in 1947; member of Sigma Alpha Epsilon; member of the American Board of Ophthalmology from 1930 to 1948 and secretary from 1944 to 1948; member of the public health council of the state department of health from 1916 to 1924; during World War I an oculist for the medical advisory board; was a guest lecturer in graduate courses at George Washington, Virginia, and Rochester universities; fellow of the American College of Surgeons; vice-president of the Foundation of Vision, 1944-1945; consulting ophthalmic surgeon at the Maine Eye and Ear Infirmary in Portland, where he was president of the staff from 1946 to 1948; chief ophthalmologist at the Portland City Hospital and Maine General Hospital in Portland; formerly member of the editorial board of the *Quarterly Review of Ophthalmology Otorhinolaryngology and Bronchoesophagology;* author of "Principles of Refraction"; a contributor to "The Eye and Its Diseases" by Dr. Conrad Berens; died Feb. 10, aged 73.

Gallegos, Percy Beales ✦ Captain, U. S. Navy, Stockton, Calif.; born in Berkeley, Calif., Nov. 11, 1899; Stanford University School of Medicine, San Francisco, 1924; specialist certified by the American Board of Obstetrics and Gynecology; fellow of the American College of Surgeons; past president of the San Joaquin County Medical Society; commissioned a lieutenant commander of the medical corps of the U. S. Naval Reserve in September, 1941; transferred to the regular navy in 1943; after various assignments in the Pacific area, aboard ships and at various naval hospitals overseas, returned to the United States in 1945 and was assigned to the Naval Hospital in Mare Island, Calif.; promoted to the rank of captain on April 1, 1948; in 1949 was transferred to the Naval Hospital in Oakland, where he served as head of the department of obstetrics; at the time of his death was chief of the dependents' service at the Naval Hospital in Philadelphia; died Feb. 5, aged 53, of coronary occlusion.

Coventry, William Albertus ✦ Duluth, Minn.; born in Brainerd, Minn., in 1876; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1900; member of the House of Delegates of the American Medical Association in 1914, 1916, and from 1937 through 1950; member of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons, Western Surgical Association, and the Central Association of Obstetricians and Gynecologists of which he had been vice-president; fellow of the American College of Surgeons; past president of the Minnesota State Medical Association, and formerly councilor of the Ninth District; member of the founders group of the American Board of Surgery; affiliated with Miller Memorial Hospital, St. Mary's Hospital, and St. Luke's Hospital, where he died Feb. 8, aged 76, of arteriosclerosis.

La Favre, Harry Buyer ✦ Captain, U. S. Navy, retired, Virginia Beach, Va.; born Sept. 10, 1893, at Sandusky, Ohio; Ohio State University College of Medicine, Columbus, 1917; served during World War I; during World War II served in European-African-Middle Eastern area and in the United States; for his service in the preparation and execution of the medical plans for the Moroccan invasion, as well as the supervision of the first naval medical facilities established in French Morocco, was awarded a letter of commendation; commanded the Naval Hospital in Camp White, Ore.; on Jan. 1, 1947, after having completed more than 30 years' continuous active naval service, was placed on the retired list; died in the Naval Hospital, Portsmouth, Feb. 18, aged 59.

Sawbridge, Edward ✦ Stephenson, Mich.; born in Marquette, Mich., Oct. 3, 1861; Rush Medical College, Chicago, 1883; an Associate Fellow of the American Medical Association; past president of the Upper Peninsula Medical Society and the Menominee County Medical Society; connected with the Michigan Bell Telephone Company from 1890 to 1944; chairman of the board of the Bank of Stephenson, of which he was one of the founders and for many years president; on the board of trustees of the Pinecrest Sanatorium in Powers; served on the staff of St. Joseph-Lloyd Hospital in Menominee, where he died Feb. 1, aged 91.

Barrett, Edward Rush, Jonesboro, Ark.; University of Tennessee College of Medicine, Memphis, 1929; past president of the Craighead-Poinsett Counties Medical Society; served during World War II; affiliated with St. Bernard's Hospital; died Dec. 31, aged 50, of coronary occlusion.

Boyd, William Snory, El Reno, Okla.; Meharry Medical College, Nashville, Tenn., 1921; died Nov. 9, aged 59.

Brown, Harry Henderson Jr. ✦ Yoakum, Texas; Harvard Medical School, Boston, 1915; died Dec. 14, aged 64.

Danforth, Harland Abbott ✦ Lynn, Mass.; University of Vermont College of Medicine, Burlington, 1904; also a dentist; died Dec. 28, aged 80, of coronary thrombosis.

Donovan, Albert Darragh, Montgomery, Ala.; Tulane University of Louisiana School of Medicine, New Orleans, 1921; died in the VA Hospital, Gulfport, Nov. 1, aged 58, of perforated duodenal ulcer.

Fielder, Roy Lamar ✦ Los Angeles; Johns Hopkins University School of Medicine, Baltimore, 1916; past president of the Radiological Section of the Los Angeles County Medical Association; affiliated with Santa Fe Coast Lines Hospital and the Methodist Hospital of Southern California, where he died Dec. 10, aged 60, of coronary occlusion.

Garber, Paul A. ✦ South Whitley, Ind.; Indiana University School of Medicine, Indianapolis, 1915; at various times secretary of the Whitley County Medical Society; served during World War I; died in Indianapolis Dec. 24, aged 60, of cerebral vascular accident.

Georgiade, George N., Jamaica, N. Y.; Université de Paris Faculté de Médecine, France, 1908; served on the staffs of the French and the Flower and Fifth Avenue hospitals in New York City; died Dec. 14, aged 75, of coronary thrombosis.

House, Edward Bernard ✦ New York City; Vereinigten Friedrichs-Universitat Medizinische Fakultat, Halle-Wittenberg, Prussia, Germany, 1914; died in Park West Hospital Nov. 28, aged 64, of acute thrombophlebitis and hypertension.

Martin, Donion Randolph ✦ Mount Vernon, Ill.; Chicago Medical School, 1934; died Nov. 17, aged 45.

Runnels, David Scott, Appleton, Wis.; Chicago Homeopathic Medical College, 1900; died Dec. 29, aged 81, of coronary thrombosis.

Schoor, Edward ✦ Hubbard, Ore.; Kansas City (Mo.) Homeopathic Medical College, 1891; died Nov. 1, aged 82, of nephritis and arteriosclerosis.

Springer, Job Gordon, Greenwich, Conn.; University of Texas School of Medicine, Galveston, 1897; died Nov. 6, aged 93, of arteriosclerosis.

✦ Indicates Member of the American Medical Association.

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FOREIGN LETTERS

LONDON

The Great London Fog.—Details concerning the exceptionally dense fog that enveloped London in the early morning of Dec. 5, 1952, and persisted until early morning of Dec. 9, are given by Dr. W. P. D. Logan, chief medical statistician of the General Register Office (*Lancet* 1:336 [Feb. 14] 1953). The number of deaths registered in the Greater London area (population about 8,500,000) increased from 1,902 in the week ended Nov. 29 to 2,062 in the week ended Dec. 6, 4,703 in the week ended Dec. 13, and 3,138 in the week ended Dec. 20. "It is reasonable to estimate," comments Dr. Logan, "that in Greater London approximately 4,000 deaths were brought about by the fog incident." A comparison is given of the deaths registered in the Greater London area, divided into the London administrative county, the outer ring, and the 160 great towns of England and Wales excluding London. Comparing the weeks ended Dec. 6 and 13, respectively, the deaths registered in the London administrative county were 945 and 2,484, in the outer ring, 1,117 and 2,219, and in the great towns (aggregate population 14 million) 4,585 and 4,749. In other words, the increase in deaths in the great towns (excluding London) was only 164, compared with 2,641 for Greater London, 1,539 for the London administrative county, and 1,102 for the outer ring of London.

Although the increase in mortality was more marked among the old than among the young, the increase was slightly less in those over 75 years of age than in the 45 to 74 age group. In the former the ratio between deaths in the weeks ended Dec. 6 and Dec. 13 was 2.7 in the former compared with 2.8 in the latter. Comparing the deaths in these two weeks, the mortality of infants under 4 weeks almost doubled (from 16 to 28), while that in the age group 4 weeks to 1 year more than doubled (from 12 to 26). Deaths of children aged 1 to 14 years increased from 10 to 13; of young adults aged 15 to 44, from 61 to 99; and of adults aged 45 to 64, from 237 to 652, of those 65 to 74, from 254 to 717, and of those 75 and over, from 355 to 949. There was relatively little disturbance of the usual age distribution of deaths. One of the striking features brought out by this analysis is the speed with which deaths started to increase. Even on Dec. 5, the first day of the fog, there was a marked increase—from 288 on Dec. 4 to 406 the next day. The daily number of deaths mounted rapidly to its peak on Dec. 8 (910) and then began to decline, but even on Dec. 15 the daily total was still 425—almost double what it had been immediately before the fog.

Date	Smoke *	Sulphur Dioxide †
Dec. 4	0.49	0.144
Dec. 5	2.64	0.751
Dec. 6	3.45	0.855
Dec. 7	4.46	1.209
Dec. 8	4.49	1.339
Dec. 9	1.22	0.472
Dec. 10	1.22	0.472
Dec. 11	0.22	0.224

* Smoke is expressed as milligrams of black suspended matter per cubic meter of air.
† Sulphur dioxide is expressed as parts per million of volume of air.

Again comparing the weeks ended Dec. 6 and Dec. 13, about half the increase in deaths was attributable to bronchitis and pneumonia. Deaths from bronchitis increased from 76 to 704 and those from pneumonia, from 45 to 168. The increase in deaths from certain other causes were as follows: respiratory tuberculosis from 14 to 77, cancer of lung from 45 to 69, coronary disease from 118 to 281, myocardial degeneration from 88 to 244, "other respiratory diseases" from 9 to 52, and influenza from 2 to 24. The increase in deaths from bronchitis and pneumonia was greatest in the older age groups, e. g., deaths from bronchitis increased from 21 to 193 in the 45 to 64 age group and from 53 to 494 in the 65 and over age group. The corresponding figures for pneumonia were 11 and 31, and 27 and 124.

Preliminary data concerning the atmospheric conditions present during the fog have been published, and the table summarizes the findings.

These figures have been supplied by the chemical branch of the London County Council public health department, which makes daily measurement of the amount of smoke and sulphur dioxide in the atmosphere at County Hall, in central London. The maximum figures quoted in this table are the highest to be found in the L. C. C. records, which, for sulphur dioxide, go back to 1932.

The following opening and closing sentences from Dr. Logan's article views this great London fog in the right perspective: "The Meuse Valley fog episode in 1930 caused 64 deaths, and the Donora (Pennsylvania) episode in 1948 caused 20 deaths. In December, 1952, a four-day fog in London caused about 4,000 deaths. . . . The figures . . . indicate that the incident was a catastrophe of the first magnitude in which, for a few days, death-rates attained a level that has been exceeded only rarely during the past hundred years—for example, at the height of the cholera epidemic of 1854 and of the influenza epidemic of 1918-19. . . . There is reason to believe that the fog incident in December, 1952, caused deaths in London on a scale possibly never experienced before from this cause."

After the Floods.—No sooner did Great Britain recover from the shock of the deadly fog in London than its eastern seaboard was devastated by floods, the like of which have not been seen in this country for many centuries. The death toll in Great Britain is still uncertain, and the latest figures suggest that it will be somewhere between 250 and 300. The medical and public health aspects of the tragedy are best summarized by the following excerpts from a report published in the (*Lancet* 1:338 [Feb. 14] 1953).

"The most serious public-health problems have been concerned with sewage. At Tilbury the main sewage works were put out of action and at Grays the main sewer burst. The result was that the flood waters became contaminated. Fortunately the water-supply to the area affected was all from mains under pressure and there has been no danger from this source. At Canvey Island, however, the worst-stricken area, the water-supply has been superchlorinated as a precaution and those using surface wells have been advised to boil their water. In the Isle of Sheppey there has been contamination of, and interference with, water-supplies: a limited main supply of chlorinated water has been provided for domestic and washing use and a ration of about a gallon of pure water a day brought into the island for drinking and cooking purposes. Elsewhere there has been little or no interference with main water-supplies, though many have been chlorinated as a precaution, but surface wells have been affected by flooded sewers and people have been advised locally to boil all water. As most of the flood water is brackish, contaminated supplies are usually unpalatable.

"At Kings Lynn the Isolation Hospital was flooded, and evacuated just in time. The other hospitals in the town were affected, but were able to keep going. Except for the railway Tilbury Hospital has been completely isolated by the floods; but it has not been evacuated and has continued to serve the population round the docks. Long Reach Hospital, Dartford, was flooded; it is the main smallpox hospital for the London area and was empty; alternative arrangements have been made to deal with any cases that might arise. Two convalescent homes and one small hospital in other regions were put out of action. Otherwise the hospitals escaped lightly and could deal with the patients brought to them. . . . There is no reason at present to fear an outbreak of enteric, but the

The items in these letters are contributed by regular correspondents in the various foreign countries.

possibility of odd cases, even of small outbreaks, of this or other sewage-borne infections cannot be entirely excluded in areas where contamination with sewage has occurred. Meanwhile influenza is complicating some of the work but not so far seriously."

Development of Consultant Services.—The *British Medical Journal*, Nov. 1, 1952, page 984, makes the following observations: "An adequate staff of consultants resident within reasonable distance of the population served, and provided with the necessary local hospital accommodation and equipment, is an essential feature of the National Health Service. It received a tremendous fillip from the wartime dispersal of teaching; so did the idea of hospitals organized in large regions, each associated with one or more teaching hospitals. But the two ideas—adequate local hospital and consultant services, and association of peripheral hospitals with the teaching hospital in their region—do not necessarily go hand in hand so well now as they did in the wartime service. Indeed, one of the burning questions in the National Health Service at present is whether the teaching hospitals will have the breadth of vision to ensure that they do provide the valuable influence which they ought to exert in their associated regions. The peripheral hospitals are acquiring a full consultant staff much more numerous than the teaching hospital consultants and vying with them in quality, and these peripheral consultants may well become as sensitive about assumed superiority by teaching hospitals as were the senior doctors of the few great municipal hospital services in 1939. Regional associations of physicians and of surgeons, and so on, in which specialists from all types of hospital meet regularly and come to know each other personally, can do much to maintain friendly feelings and to spread the standards of the best consultants, whether they be teaching or non-teaching. Recruitment to the teaching hospital staff of outstanding consultants who have proved their worth in peripheral hospitals may be the only way for the teaching hospitals to maintain the intellectual and practical pre-eminence on which their regional influence must ultimately depend.

"The most immediate problem arises from the present formal system of training consultants, foreshadowed by some wartime arrangements. Fair play is required now from the teaching hospitals in arranging their training schemes so that registrars and senior registrars spend part of their training period in teaching and part in non-teaching hospitals. It can be argued that this is necessary to ensure adequate training. And regional hospital boards, with their consultants, must not be driven to set up, as they could do, their independent training schemes for registrars and senior registrars. That would entail a great loss, and not least to the teaching hospitals themselves."

MEXICO

Tenth National Assembly of Surgeons.—Every 2 years, during the last 20 years, surgeons all over the country, as well as guests from the continent and Europe, gather at the Hospital Juarez (Mexico City Surgical Municipal Hospital). Those meetings are the National Assemblies of Surgeons. The last, which was the 10th, took place Nov. 9-15, 1952. In the last few years some sections of the assembly have acquired such importance that it has been deemed, as the best solution for their correct functioning, to convert them into semiautonomous congresses. This year the following groups had such status: the Second Congress of Orthopedics and Traumatology, the Fourth Congress of Anesthesiology, the First National Meeting of Pathologists, the First Seminar of Neurosurgery, and the Eighth National Convention of Nurses.

The 10th assembly, besides its ordinary activities, which included surgery demonstrations (some transmitted by television), clinical sessions, clinocopathological sessions, symposiums, and general and sectional meetings, organized a scientific contest on the subject of experimental surgery, involving five postgraduate courses and scientific and artistic exhibits. Among the general proposals, many of which were adopted as resolutions of the assembly, were the creation of a bank of corneas, creation of a scientific motion picture department and library, impulse of bone banks, construction of little hospitals destined for the middle class, insistence on experimental surgery, and emphasis on vascular and neurological surgery. In other general or sectional meetings, between 300 and 350 papers or communications were presented by more than 1,000 Mexican or foreign assistants to the assembly. Among the latter were Dr. Leriche and Mallet Guy from France, Dr. Freeman, Watts, and Livingstone from the United States, Dr. Sardiñas from Cuba, and Dr. Quintero from Venezuela.

Because of its importance, the First National Meeting of Pathologists deserves brief comment. It was organized by Mexican pathologists and had as its most important result the creation of the Mexican Society of Pathology. Distinguished guests were present during the meeting, and a tumor seminar was conducted by Dr. Arthur P. Stout (Columbia University, New York). Other guests were Dr. Lauren V. Ackerman, St. Louis; Dr. Isaac Costero, Mexico City; Dr. Juan A. del Regato, Colorado Springs, Colo.; Dr. Antoine La Cassagne, Paris; Dr. Pierre Masson, Canada; and Dr. Shields Warren, Boston.

Fourth Inter-American Congress of Radiology.—The Fourth Inter-American Congress of Radiology took place in Mexico City Nov. 3-7, 1952. It was attended by delegations from other Latin American countries, from the United States and Canada, and from Europe, besides those of Mexico. Dr. Manuel F. Madrazo acted as president. Among the guests from other countries were Dr. Anibal Toledo Henderson from Chile, Dr. J. Cabello Campos from Brazil, Dr. Origene Dufresne from Canada, Dr. James T. Case from the United States, and Dr. Rene Gilbert from France. Because of their importance the following papers should be mentioned: The Use of Intravascular Radiopaque Material in the Diagnosis of Intra-Abdominal Tumors, Dr. Earl R. Miller, the United States; X-Ray Treatment of Lymphoma, Dr. Pedro A. Maissa; Acute Abdominal Conditions Produced by Ascaris Lumbricoides, Dr. Oriol Araujo, Colombia; and X-Ray in Pancreatic Diseases, Dr. Carlos Coqui, Mexico.

SWEDEN

Changing Composition of Sanatorium Clientèle.—Dr. Carl A. Fürst of the large Orup Sanatorium commented on the extent that the antituberculosis campaign in Sweden has changed the character of the cases now receiving sanatorium treatment. His material consists of 2,088 cases treated in the 10 year period 1941-1950, and he also draws on studies from the same sanatorium published by his colleagues and covering the periods 1932-1933 and 1934-1940. From the detailed account of his own 10 year period, published in a recent number of the quarterly journal of the Swedish National Association Against Tuberculosis, the following conclusions were drawn: The proportion of early and curable cases has risen, and the number of serious complications of pulmonary tuberculosis has fallen markedly. There has also been a marked fall in the number of cases of active tuberculosis in women allowed to continue breast-feeding in spite of their disease. The 2,088 patients were classified in age groups of 15 years each, and it was found that in 1941 there were only 4 patients from 60 to 89 whereas in 1950 there were 26 patients in this age group. In the period 1941-1945 there were 20 such patients between 60 and 89, whereas in the following period 1946-1950 there were 91 such cases. This shift of tuberculosis to old age does not, however, hide the fact that most sanatorium cases are still being recruited from the comparatively young age group 15-29 years. The next numerically most important age group is 30-44 years. Between 1941 and 1945, 69% of the sanatorium patients were diagnosed as tuberculous at the first medical examination. During the next five years, this figure rose to 75%, a rise testifying to the growing alertness with which Swedish physicians are recognizing tuberculosis. Writing as a sanatorium physician, Dr. Fürst criticizes those of his colleagues who do not at once send cases of pleurisy to a sanatorium for observation immediately. The number of patients in whom tuberculosis broke out after a more or less neglected attack of pleurisy fell from 44 in the first five year period to 19 in the second, a fall suggesting that such cases of neglected pleurisy are on the wane. Dr. Fürst concludes that the longer one studies tuberculosis the greater is his humility in venturing on a prognosis.

CORRESPONDENCE

USE OF THE MICROPHONE

To the Editor:—Because so many physicians use a microphone at meetings, the medical profession as a whole should assume responsibility for proper use of the instrument. Most lecturers are concerned with the use of the "mike," and those interested in medicine should not be laggard in making the best use of it. I know of two or three nationally known physicians and one or two local physicians who speak well when they use a public address system. The listener relaxes, tension disappears, and the speaker's every word is heard without the slightest effort. One is always appreciative of such speakers. Some use the microphone satisfactorily by instinct, and no fault can be found with their delivery. Unfortunately, these persons are too few. On the other hand, if we can judge by performances at a medical meeting, there are many who, either because of interest in their contribution or the realization that they are faced by an audience, appear to become oblivious of the microphone and allow their voices to wander and actually disappear from the public address system. In this way, these speakers fail to do what their listeners and they themselves want most; they fail to make every sound and word significant.

Too often speakers are chagrined when told, "Half of your contribution was not heard." This may have been the fault of the speaker or it may have been because the amplifier was too far away or there was too much reverberation in the hall. Whatever the reason, the speaker is disappointed, and the listener is discouraged. Both men probably have traveled many miles to attend the meeting and both, for unnecessary reasons, have not been satisfied. Sometimes the chairman could come to the speaker's aid, but often he appears to know less than the speaker about the microphone. It should be a matter of pride, even to the chairman, to make sure that the microphone is used to its full capacity. Until all speakers are taught the importance and the limitations of the public address system, some presentations will be garbled and the result disappointing.

There are two parts to every public address system, the microphone and the amplifier. The former receives the spoken word and the latter distributes it. The receiver should be placed so that it will receive each word. One need not be a professional speaker to use it properly, but some training in public speaking is usually necessary. Breath control will help sound waves strike the microphone with the proper force. In addition, care must be taken to maintain the proper distance between the origin of the sound waves and the microphone. Any change in this relationship is taken at the speaker's risk. Experience shows that the best results for the conversational voice are obtained when the speaker's mouth is not nearer than three inches or farther than six inches from the receiver. Every good speaker keeps his mouth the same distance from the microphone at all times. The second part of the public address system is the amplifier. This must be placed so that it functions to the best advantage for the listeners.

To insist that both parts of the system are used correctly should be the duty of someone at medical meetings. Plans for every medical meeting include an entertainment committee and a program committee, why not a public address committee? The duties of such a committee should be to require and to help every speaker become acquainted with the public address system and to provide adequate public address facilities for speakers. If necessary, the average audience would give up a few moments for the formal instruction of each speaker in the use of this particular "mike," and it would gladly accept monitoring and assistance given the unskilled speaker or adjustment of a lapel microphone for use when lantern slides are used. It would be better, however, if instruction could be given before a meeting. Satisfactory, short postgraduate courses are being developed by hard-working committees, and every effort should be made to ensure the success of their efforts. Before each meeting, someone should see that the amplifying system is in good working order; perhaps a competent engineer could be in attendance, as even the best sets need adjustments. If previous experiences have been unfavorable, a public address committee might be consulted as to which men should be invited to speak at a postgraduate course. A new speaker might be asked to relay his experiences in the use of a public address system. As a precaution, he might also be told how important the committee regards the proper use of this system and how anxious the committee is to assist him in getting his message across to his listeners. It might be kindly suggested that he practice reading a section of his paper over the public address system before the course begins.

On behalf of the speaker, when he accepts an invitation to speak at a meeting or at one of the postgraduate courses, it is well within his right to inquire about the facilities the committee has to offer. If the facilities are not satisfactory, he might inform the committee that it would not be worth while to give his paper under such unfavorable circumstances. The mere possession of a loudspeaker does not signify that a talk will be adequately heard. Most amplifiers are placed so that the greatest volume will reach the greatest number. Sometimes it seems like altering "the laws of the Medes and the Persians" to suggest any change. Men might be stationed in various parts of the hall to determine whether the audience is hearing the lecturer. It would be a kindness if these persons would determine areas in the auditorium where the amplifiers function best and point out these spots to listeners with hearing loss.

JOHN GARDINER, M.D.
358 W. Bancroft St.
Toledo 2, Ohio

AORTIC STENOSIS

To the Editor:—In a letter to the editor of THE JOURNAL (**151:**578 [Feb. 14] 1953), Dr. Henry I. Russek agrees with the findings reported in our article entitled "Aortic Stenosis Manifested as Chronic Cor Pulmonale" (*J. A. M. A.* **150:**1111 [Nov. 15] 1952), but he objects to our interpretation. He attributes our findings to Bernheim's syndrome, a clinical concept postulated on the anatomic fact that, at autopsy in cases of marked left ventricular hypertrophy, the septum almost invariably bulges toward the free right ventricular wall. A letter is not the proper place to start a semantic discussion of the existence of this syndrome, but we should like to list some of the errors in his letter. These are as follows. 1. We were attempting to interpret dyspnea, present early in all our patients, and which, by definition, excludes Bernheim's syndrome. 2. Circulation time studies were unknown in Bernheim's day. 3. Russek never reported pulmonary circulation time studies in Bernheim's syndrome. 4. His quotation from Fishberg (Heart Failure, Philadelphia, Lea and Febiger, 1940) omits the crucial statement that the pulmonary circulation time was normal in those instances attributed by Fishberg to Bernheim's syndrome. 5. He ignores the significance of right ventricular hypertrophy. 6. He omits the fact that we reported prolonged "pulmonary circulation time," normal venous pressure, and normal "left heart time." Only later does the venous pressure rise.

LOUIS A. SOLOFF, M.D.
JACOB ZATUCHNI, M.D.
LINTON W. TURNER, M.D.
Temple University Hospital
Broad St. at Ontario
Philadelphia, 40.

BUREAU OF LEGAL MEDICINE AND LEGISLATION

MEDICOLEGAL ABSTRACTS

Hospitals, in General: Liability of Public Hospital for Injuries to Pay Patient.—This was an action for damages for injuries alleged to have resulted from the negligence of the defendant hospital. From a judgment in favor of the plaintiff, the defendant hospital appealed to the Supreme Court of Florida.

The plaintiff, while a patient in the defendant, Suwannee County Hospital, went into a state of shock following a serious operation. She was unconscious for many hours, and when she regained her senses she complained of pain in one of her legs. It was then discovered that she had been burned, evidently by hot water bottles applied to her limbs. There was testimony that the application of heat was proper treatment but that the bottles were not equipped with insulating covers.

The Suwannee County Hospital was established under the authority of state statutes creating hospital districts and authorizing such districts to build and maintain hospitals for the benefit of the citizens and residents thereof. The Legislature was at pains to declare in the act that the hospital was to be "public," the corporation "public," and the district "public"; also the corporation was to be nonprofit, with net earnings placed in a reserve fund to be used for hospital purposes. The trustees of the hospital district were empowered to prescribe maximum charges and fees and to determine who should receive hospitalization free because of inability to pay. The particular provision brought into focus by this controversy, said the Supreme Court, is: "The said corporation may contract and be contracted with, and may sue and be sued, but said corporation shall not be liable for any negligence of any of its officers, agents or employees, including doctors and surgeons and nurses who may be engaged in work at or about said hospital, and shall not be liable for any tort committed by any officer, agent or employee of said corporation." The defendant hospital contends that it should not, therefore, be held responsible for damages caused by the torts of its employees.

As important as public health is and as indispensable as hospitals are to public health, said the Supreme Court, it seems clear to us that their activities fall more clearly into the category of proprietary functions than governmental functions, as to those patients who pay for the services they require and who are justified in expecting they will receive, free of negligence, the expert services for which they pay. Institutions such as these are not a part of any state-wide system maintained at public expense, so all who become afflicted may, regardless of their individual worth, have the advantages of professional nursing, medical attention, and modern scientific apparatuses without cost to them. What conceivable difference is there, asked the Supreme Court, between the functioning of a nonprofit institution operated by a district and a hospital owned and operated privately? We can think of none, said the Supreme Court. Yet, from a commercial standpoint, there is quite a difference, for the public one pays no taxes and, in fact, can draw on public funds for financial aid, while the privately owned one pays its own way and actually helps, through taxation, to pay the other's way also. It is our view that one who enters a hospital of the type of the defendant and pays for the professional services he receives is entitled to the same protection and, under our constitution, to the same redress for wrongs that he would be entitled to had he had the same experience in a privately owned and operated hospital. And it bothers us not at all that the corporation is called nonprofit, the net earnings to be "placed in its reserve fund and used for hospital purposes." True, these net earnings do not reach the pocket of any individual person, but we can see no impropriety or illogic in making them available for the sick who have been injured by mistreatment as well as those who seek a restoration of health by proper treatment. At least as to those who are paying patients like the plaintiff, concluded the Supreme Court, the hospital is operated in a proprietary capacity and they may not be divested of constitutional rights by the attempted statutory immunization. As to persons of that classification, the hospital is the same as if it were privately maintained, its duty to the patient is the same, and it should be equally responsible for its torts.

Accordingly the judgment of the trial court in favor of the plaintiff patient was affirmed. *Suwannee County Hospital Corp. v. Golden, 56 So. (2d) 911 (Florida 1952).*

MEDICAL MOTION PICTURES

NEW FILMS ADDED TO A. M. A. MOTION PICTURE LIBRARY

Function of the Mitral Valve in Situ: 16 mm., color, sound, showing time 13 minutes. Sponsored by Playtex Park Research Institute, New York. Prepared in 1952 by Adrian Kantrowitz, M.D., and Elliott S. Hurwitt, M.D., Montefiore Hospital, New York. Procurable on loan (service charge $2.00) from Committee on Medical Motion Pictures, American Medical Association, 535 N. Dearborn St., Chicago 10.

This film demonstrates the action of the mitral valve in the anesthetized dog under conditions that do not depart in any too important sense from normal. The viewer is first oriented in regard to the experimental set-up. This is well done by means of pertinent photography of the equipment, surgery, and schematic diagrams. In this set-up the blood flow from the pulmonary veins is diverted through a mechanical pump into the femoral arteries. This allows the filling and maintenance of pressure in the arterial system at normal levels while the left heart remains bloodless. The action of the mitral valve is then followed through an opening in the left auricle while the ventricle is empty and then filled with sodium chloride. The demonstration is well organized, and the observer is kept well oriented throughout the discussion by means of diagrams.

The narration, photography, and color are good. It would seem that any student of medicine, whether medical student or teacher, would have an opportunity of gaining much information from this film. The film is primarily intended for and best suited for students in medicine.

The Nose, Throat and Ears. Black and white, sound, showing time 10 minutes. Available through the Committee on Medical Motion Pictures (service charge $2.00).

The normal functioning of the nose, throat, and ears are illustrated through the medium of animated drawings. The film clearly portrays the cause of complications arising from the use of nose drops, careless nose blowing, and neglected colds.

(A complete review was published in THE JOURNAL, Nov. 6, 1948, page 773.)

The Body Fights Bacteria. Black and white, sound, showing time 15 minutes. Available through the Committee on Medical Motion Pictures (service charge $2.00).

This picture demonstrates the dangers to human life presented by bacteria and the body's defenses against bacteria. Artificial immunization through the inoculation of smallpox vaccine is used to illustrate active immunization.

(A complete review was published in THE JOURNAL, Nov. 6, 1948, page 773.)

MEDICAL LITERATURE ABSTRACTS

UNITED STATES

A.M.A. Arch. Otolaryngology, Chicago

57:1-122 (Jan.) 1953. Partial Index

Effect of Cortical Lesions and Elimination of Retinal Impulses on Labyrinthine Nystagmus. H. T. Wycis and E. A. Spiegel.—p. 1.

Hydrotympanum (Secretory Otitis Media): Review of Literature and Presentation of Data on 39 Cases. F. L. Harcourt and A. K. Brown.—p. 12.

Myosarcoma of Trachea Associated with Riedel Struma. G. E. McKenzie and P. R. Rezek.—p. 22.

*Sarcoma of Larynx: Report of Two Cases. K. L. Diehl.—p. 40.

Tracheal Buckling: Differential Roentgen Sign. M. H. Poppel, H. G. Jacobson and S. B. Dewing.—p. 44.

*General Principles in Treatment of Nasal Hemorrhage: Emphasis on Management of Postnasal Hemorrhage. H. H. Beinfield.—p. 51.

Lingual Thyroid: Historical Data, Developmental Anatomy, and Report of Case. Z. J. Waters, K. McCullough and N. R. Thomas.—p. 60.

Chronic Progressive Deafness, Including Otosclerosis and Diseases of Inner Ear. A. L. Juers, E. L. Derlacki and G. E. Shambaugh Jr.—p. 87.

Sarcoma of Larynx.—Diehl describes two cases of sarcoma of the larynx, a rare lesion. He stresses that not only clinically but also histologically sarcoma can give the impression of a benign tumor. In his first patient biopsy revealed a benign fibroma. A thyrotomy was done, and a tumor approximately 2 cm. in diameter was removed from the left cord. Since pathological examination revealed fibrosarcoma, the patient was examined at weekly intervals. About two months after her discharge from the hospital, a severe laryngeal obstruction developed and an emergency tracheotomy was done. Direct laryngoscopy showed a large tumor mass occluding almost completely the larynx aditus and arising from the left side of the larynx. A complete laryngectomy was performed. About two months later the tracheal stoma was clean and healed, and the patient ate well. X-ray examination disclosed no metastasis at that time. In the second patient two biopsies had revealed only fibrous tissues and chronic inflammation, but after removal of most of the tumor mass, microscopic examination showed sarcoma. A complete laryngectomy was done, and a permanent tracheal opening was made. There were no postoperative complications except for a short period of esophagotracheal drainage. The author feels that thyrotomy and excision of the sarcoma alone are inadequate treatment for this type of tumor and that total laryngectomy is indicated.

Treatment of Nosebleed.—Beinfield applies the term nosebleed to spontaneous bleeding from a specific anatomical location in the nose. He excludes from this discussion diffuse nasal hemorrhage associated with systemic diseases, surgical operation, or trauma. Anterior nosebleed is most frequently due to an ulceration or a rupture of a blood vessel in Little's area or Kiesselbach's triangle, and occurs oftenest in children. Posterior nosebleed, or postnasal bleeding, results from rupture of the sphenopalatine artery. It occurs in older persons with hypertension, arteriosclerosis, or cardiovascular disease. In the mild type of anterior nosebleed, a pledget of cotton moistened with tetracaine hydrochloride is placed in the nose and left in place for a few minutes to produce anesthesia. If bleeding is still present on removal of the cotton pledget, it is replaced by another one that has been moistened with a 1:1,000 epinephrine solution. However, before this second pledget is inserted, the physician should look into the nose to ascertain the bleeding spot. With the bleeding controlled by the epinephrine, a chromic acid bead, made by fusing a chromic acid crystal on a heated wire applicator, is applied, but only to a dry surface. In emergencies in which blood is pouring from the nose and the bleeding point cannot be searched for, the nose is packed under direct vision and the packing is retained for 24 hours or longer. Curetting the bleeding area down to the septal cartilage with a mastoid curette is beneficial if the bleeding is coming from the bone, e. g., the vomer. Posterior nosebleed usually causes apprehension. Elderly patients should be reassured by being told that the nasal hemorrhage is not nearly as serious as if it had occurred in the head and that a certain amount of blood loss is good because it helps to lower the blood pressure. The nose should first be anesthetized, especially high up on the septum and posteriorly. A piece of gauze moistened with epinephrine is placed between the septum and the middle turbinate and pushed back until the resistance of the anterior wall of the sphenoid is felt; then the gauze is firmly pressed against it. This gauze pack acts as a pressure pack over the ruptured vessel, and usually checks bleeding. When there is a high deviation of the septum, with no room between the septum and the middle turbinate, 5 to 10 cc. of a 1.5% solution of butethamine hydrochloride with epinephrine 1:30,000 is injected into the septal mucosa. With infiltration and elevation of the mucoperiosteum, the bleeding frequently stops but may recur after the infiltration disappears. When the bleeding is very profuse and when it is impossible to put a gauze pack against the anterior wall of the sphenoid, a postnasal pack must be applied immediately. If bleeding continues after 24 hours with the postnasal pack still in place, a submucous resection should be done. It is difficult to understand why a submucous resection should control postnasal bleeding, but it does in the majority of cases. With the plan outlined for postnasal hemorrhage, the necessity for ligation of the external carotid artery will be greatly reduced or eliminated.

American Heart Journal, St. Louis

45:1-160 (Jan.) 1953

Estimation of Valve Area and "Valvular Resistance": Critical Study of Physical Basis of Methods Employed. F. A. Rodrigo and H. A. Snellen.—p. 1.

Studies in Mitral Stenosis: IV. Relative Merits of Various Diagnostic Methods in Mitral Valvular Disease. G. Björk, O. Axén, H. Krook and others.—p. 13.

Studies of Frequency Response in Ballistocardiography. J. E. Smith and S. Bryan.—p. 40.

New Full-Frequency Range Calibrated Ballistocardiograph: I. Recording Body Ballistics in Displacement, Velocity, and Acceleration. S. R. Arbeit and N. Lindner.—p. 52.

Simple Method to Obtain an Approximate Vectorcardiogram with an Ordinary Electrocardiograph: Frontal and Horizontal Planes. C. Ayala y de Landero.—p. 60.

Mean Spatial Vectorcardiography: the Normal QRS and T Vectors. D. L. Urschel and D. C. Abbey.—p. 65.

Simple Diagram to Illustrate Relationships Between Extremity Leads. L. A. Soloff and J. Zatuchni.—p. 77.

The Q-T Interval in Myocardial Infarction and Left Ventricular Hypertrophy. S. R. Elek, A. S. Silver, J. N. Tober and G. C. Griffith.—p. 80.

Anatomic and Electrocardiographic Correlation in Combined Ventricular Hypertrophy. M. B. Lipsett and W. J. Zinn.—p. 86.

On the Response of Ectopic Auricular Tachycardias to Vagus Stimulation. D. Scherf, S. Blumenfeld, P. Mueller and W. H. Beinfield.—p. 95.

Studies with Intravenous Gitalin: I. Clinical and Electrocardiographic Observations. O. M. Haring and A. A. Luisada.—p. 108.

Relation of Choline Cycle to Cardiac Decompensation: Acetylcholine Metabolism in Dog Heart-Lung Preparation. W. M. Govier, W. A. Freyburger, A. J. Gibbons and others.—p. 122.

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Titles marked with an asterisk (*) are abstracted.

New England Journal of Medicine, Boston

248:43-80 (Jan. 8) 1953

*Rehabilitation of Patients Totally Paralyzed Below the Waist, with Special Reference to Making Them Ambulatory and Capable of Earning Their Own Living: IV. Control of Bowel Emptying. D. Munro.—p. 43.
*Use of Rauwolfia Serpentina in Hypertensive Patients. R. W. Wilkins and W. E. Judson.—p. 48.
Arthrodesis of the Ankle Joint: Indications, Operative Technic and Clinical Experience. J. S. Barr and E. E. Record.—p. 53.
*Effect of Intravenous Injection of Emulsified Vitamin K_1 on Hypoprothrombinemia Induced by Tromexan. W. C. Van Buskirk.—p. 57.
Psychosurgery. M. Greenblatt and H. C. Solomon.—p. 59.
Cervicofacial Actinomycosis: Report of Case. W. H. Perlstein.—p. 67.
Relation of Heart Size to Time Intervals of Heart Beat, with Particular Reference to the Elephant and the Whale. P. D. White, R. L. King and J. Jenks Jr.—p. 69.

Control of Bowel Emptying in Paraplegic Patients.—In a series of 310 patients with spinal cord lesions that caused paralysis below the waist there were 39 with injuries requiring the bowel to act on a segmental reflex (transected cords) or on a partially denervated basis (lumbosacral-cord and cauda-equina injuries). In these patients successful bowel training was based on development of a conditional reflex. While spinal shock is present and the abdomen remains silent, the patient is given no food or fluids. A rectal tube is inserted and left in place for one of every two hours. If there is vomiting, Wangensteen suction is instituted. Bladder distention is controlled by tidal drainage. When peristalsis is again audible and there is no further dilatation of the stomach, fluids and then gruel are given at frequent intervals. This diet is increased until the patient is taking a mixed diet containing 3,000 calories and 150 gm. of protein. No drugs should be given and laparotomy should not be done during intestinal paralysis. As long as the bladder has no reflex activity, the bowels should be controlled by enemas. As soon as reflex action of the bladder indicates segmental reinervation, bowel training can be started; training is useless while there are uncontrolled involuntary spasms, or while spinal shock and infection, inanition, exhaustion and hypoproteinemias are present. The most important prerequisite to bowel training is that the external anal sphincter be properly innervated and that the nerve supply of the large bowel from the sigmoid flexure through the internal rectal sphincter be intact. Munro then describes the various steps in conditioning the necessary reflexes with the aid of stimuli such as self-administered enemas, ingestion of magnesium hydroxide (milk of magnesia) by mouth, and then gradual withdrawal of these stimuli. If after this training the patient continues to go to stool every day or every other day at the time he has conditioned his bowel to move, barring intestinal upsets or diseases, his bowel will empty itself at the designated time. The patients who completed this bowel training have been free of accidental soiling for from one to seven years. A conditioned reflex that will permanently regulate bowel discharge can be established in the absence of all somatic neural connections between the brain and the spinal cord. The method succeeded in 42 of the 74 cases in which it was needed, in 39 during hospitalization and in 3 after discharge.

Rauwolfia Serpentina in Hypertension.—Rauwolfia serpentina (Ophioxylon serpentinum) has been used in India to treat various diseases that can be relieved symptomatically by a sedative or relaxing drug. Wilkins and Judson gave their attention to this drug because reports of its hypotensive effects seemed fairly well documented. Most of the subjects they selected for treatment with this drug had essential hypertension but a few had renal hypertension. After at least several weeks of observation either without medication or during treatment with some other hypotensive drug, usually Veratrum alkaloids, they were given a derivative of R. serpentina orally in the form of "serpina" tablets one to four tablets daily, usually in two doses, morning and night. When "serpina" alone caused the blood pressure to fall below 150/90 mm. Hg, placebos were sometimes substituted, but no other drug was added. Otherwise, after 6 to 10 weeks of treatment, without a reduction of pressure to below that level, either Veratrum viride in the form of veriloid,[9] or hydrazinophthalazine was given concomitantly. If the pressure still did not return to normal within another six weeks, the third drug was added. It was found that a considerable number of patients required the combination therapy to bring the blood pressures to normal. "Serpina" has now been given to over 100 patients for periods of a month to a year. One to three tablets of the drug daily by mouth are well tolerated for months. From three to six days usually elapse before the drug becomes effective, but its action persists for from 7 to 21 days after interruption of treatment. It produces no serious side-effects and usually improves sleep, although it may cause nightmares. Bradycardia and nasal congestion may result from its use. It tends to promote a gain in weight, and, occasionally, to increase the frequency of bowel movements. It is not habit forming and does not produce tolerance. Administration can readily be stopped for a few days to relieve unpleasant side-effects. It is useful as an adjunct to more potent hypotensive drugs and is a valuable addition to the pharmaceutical armamentarium against hypertension.

Emulsified Vitamin K_1 for Hypoprothrombinemia Induced by Ethyl Biscoumacetate.—Ethyl biscoumacetate (tromexan® ethyl acetate) has proved effective in inducing hypoprothrombinemia in the treatment of thrombophlebitis or in the prevention of pulmonary or myocardial infarcts. It has also been known to cause severe hemorrhages, however, and since vitamin K has been of value in reversing the hypoprothrombinemia induced by bishydroxycoumarin, it seemed possible that it would also prevent hemorrhages resulting from treatment with ethyl biscoumacetate. Ten of 18 patients in whom hypoprothrombinemia was induced and maintained by ethyl biscoumacetate were given vitamin K_1 intravenously in order to permit observation of the speed of return of the plasma prothrombin level to normal. The vitamin K_1 used was the purified, naturally occurring, fat-soluble compound (2-methyl-3 phytyl-1-4-naphthoquinone), identical with that originally obtained from alfalfa by Dam. The preparation, in the form of an oil, was emulsified for intravenous administration. The emulsion contained 50 mg. of vitamin K_1 per cubic centimeter and the dose was 5 mg. per kilogram of body weight. In two additional patients one of the many water-soluble naphthoquinones, with strong vitamin K activity was given intravenously, to compare its effect with that of vitamin K_1. The six remaining patients served as controls. The results obtained indicated that vitamin K_1 was more effective than the synthetic water-soluble vitamin K preparation in restoring prothrombin concentrations toward normal.

South Dakota J. Med. & Pharmacy, Sioux Falls

6:1-36 (Jan.) 1953

Anti-Coagulant Therapy in Acute Arterial Thrombosis. J. V. McGreevy and E. J. McGreevy.—p. 1.
Papillary Carcinoma of Renal Pelvis: Report of Case. J. T. Murphy. —p. 4.
"Abruptio Placenta, Blood Defibrination, Lower Nephron Syndrome, and Sequellae": Case Report. B. Ranney.—p. 6.
Roentgenologic Diagnosis of Carcinoma of Stomach. J. R. Hodgson and B. R. Kirklin.—p. 15.

Southwestern Medicine, El Paso, Texas

34:1-36 (Jan.) 1953

Surgical Management of Hypertension. W. A. Jones.—p. 14.
Recurrent, Paroxysmal Auricular Tachycardia for Twenty-Five Years; Report of Case Treated Successfully. A. M. Babey.—p. 16.

34:37-72 (Feb.) 1953

Arthrodesis of Hip Joint. W. C. Basom.—p. 54.
Management of Bladder Neck Obstruction. E. Burns.—p. 56.
Placenta Accreta—Case Report. J. J. Johnson Jr.—p. 59.
Rapid Method of Drying Slides and Use of Vibrator in Application of Electrodes. R. D. Haire Jr.—p. 60.

Texas State Journal of Medicine, Forth Worth

49:1-52 (Jan.) 1953

Problems in Roentgen-Ray Diagnosis of Congenital Heart Conditions. E. W. Spackman.—p. 5.
Pulmonary Embolism; Its Prevention and Treatment. R. D. Holt.—p. 12.
Benign Pericarditis. F. H. Verbeyden.—p. 14.
Thromboangiitis Obliterans (Buerger's Disease) Role of Sympathectomy in Treatment. L. J. Kleinsasser.—p. 20.
Indications for Splenectomy. R. E. Nitschke.—p. 24.
Sudden and Unexpected Natural Death. M. H. Grossman.—p. 32.
Medical Problems of an Aging Population. E. G. Faber.—p. 35.

FOREIGN

Acta Chirurgica Belgica, Brussels

51:649-714 (Nov.) 1952. **Partial Index**

New Technique for Extremely Rapid Closure of Cranial Defects with Autopolymerized Acrylic Resin. E. Woringer.—p. 655.
Actual Concepts of Multiple Myelomas and Their Bone Lesions. R. Goffin. —p. 660.
Gastrectomy Followed by Replacement of Gastropyloric Region with a Segment of Transverse Colon. F. Demelenne.—p. 669.
*Ligation of Inferior Vena Cava in Cardiac Decompensation; Classic Surgical Intervention Combined with Right Lumbar Sympathectomy. P. Wiringer.—p. 677.

Modified Ligation of Inferior Vena Cava in Cardiac Decompensation.—According to Wiringer, satisfactory results obtained from ligation of the inferior vena cava in patients with cardiac decompensation depend on the retarded return circulation and on the secondary drop in venous and auricular pressure. Ligation of the inferior vena cava was performed according to the classic technique in five patients, and was combined with right lumbar sympathectomy in four additional patients to increase the delay in the return flow of the blood to the heart. Sympathectomy results in the storage of a significant amount of blood in the abdominal viscera and lower extremities, i. e., a true "internal blood-letting" that reduces the venous hypertension and improves the function of the heart, the liver, and the kidneys. Of the nine patients operated on, two died 5 and 20 hours, respectively, after the operation. Six patients were definitely benefited by the intervention, and one patient was not improved. While a more detailed report of the results obtained will be presented later, it is the author's impression that the patients who had the combined operation were better compensated postoperatively than those who underwent classic ligation of the inferior vena cava. The operative mortality corresponded with that reported by other workers and should be evaluated by considering the extremely precarious condition of the patients operated on and the improvement obtained in most of them. With proper preoperative and postoperative care, general anesthesia with thiopental sodium completed with ether, spinal anesthesia with dibucaine hydrochloride at the level of the seventh and eighth dorsal vertebrae, and the use of the retroperitoneal approach, the results are encouraging. It is suggested that the scope of commissurotomy for mitral stenosis may be increased by modified ligation of the inferior vena cava as a first stage procedure, followed later under more favorable conditions by commissurotomy performed as a second stage procedure in a compensated heart.

Acta Medica Scandinavica, Stockholm

144:81-164 (No. 2) 1952. **Partial Index**

Transitory Erythroblastic Reaction: Report of Case. J. W. Muri.—p. 95.
*Analysis of Series of Asthma Cases Treated with Autovaccine. G. Bergquist.—p. 101.
*Eosinopenia Induced by Emotional Stress. F. Dreyfuss and S. Feldman. —p. 107.
Urethane in Multiple Myeloma: I. Final Report of Case Treated more than Four Years with Urethane. N. Alwall.—p. 114.
Extreme Eosinophilia and Leukocytosis in Connection with Bronchial Asthma. E. Klemola.—p. 119.
Chemotherapy in Infections of Urinary Tract. A. Stenderup, F. Kissmeyer-Nielsen and P. Linnet-Jepsen.—p. 124.

Autovaccine in Treatment of Asthma.—Two types of asthma have been distinguished: extrinsic and intrinsic. In extrinsic asthma the allergen comes from the outside. In intrinsic asthma bacterial products originating in a focus of infection within the body act as the allergen. In this group vaccine treatment has long been known to be effective. Bergquist reviews observations in the treatment of 341 patients with asthma, of whom 189 were classified as having intrinsic and 152 as having extrinsic asthma. Those with extrinsic asthma were treated by means of specific hyposensitization followed by nonspecific hyposensitization in the form of autogenous vaccination. When the patients with intrinsic asthma reacted positively to cutaneous tests, both specific and nonspecific hyposensitization was induced, while the negative reactors to cutaneous tests received only autovaccine. The therapeutic results were good in 80.4% of the patients with the intrinsic and in 71.7% of the patients with extrinsic asthma. There is no significant difference in therapeutic response between males and females, but age is important. Children show the best results, and the good results decrease with advancing age.

Eosinopenia Induced by Emotional Stress.—Eosinopenia similar to that produced by the injection of corticotropin or cortisone has been observed as a response to many types of stress. Dreyfuss and Feldman made eosinophil counts in the blood of 31 medical students immediately before they began their oral examination. Control counts were done exactly 24 hours later, thereby taking into account possible diurnal fluctuation in the individual. There was an average drop of 44% in preexamination counts as compared with the postexamination counts. A low cosinophil count, apparently due to continued tension, persisted in a few students after the examinations. In a group of 10 women admitted for diagnostic curettage, there was an average drop of 42% in their preoperation counts as compared with their counts taken on admission. The decrease in eosinophil counts in both groups is ascribed to the considerable emotional stress undergone in the two situations studied. The authors feel that emotionally induced eosinopenia can easily interfere with the evaluation of eosinophil counts taken in various conditions of stress or with study of the effect of the administration of drugs or hormones. This type of eosinopenic response might even partly account for the extreme variability of so-called normal cosinophil counts. On the other hand, emotional eosinopenia may well provide a means of following the emotional components in, for instance, the course of psychosomatic illness. This type of eosinopenia may illustrate the influence that the cerebral cortex exerts on the hypothalamic-pituitary-adrenal system, and is a model of a psychosomatic phenomenon.

Archives des Maladies du Coeur, Paris

45:961-1056 (Nov.) 1952. **Partial Index**

*Exploration of Heart and Large Thoracic Vessels by Mediastinal Pneumostratigraphy. Technique of Pneumomediastinum by Retroperitoneal Route. G. Giraud, P. Béticulières, H. Lateur and others.—p. 961.
Anatomical and Clinical Study of Tricuspid Atresias. P. Chiche.—p. 980.
Ballistocardiogram in Certain Valvular Lesions and Congenital Malformations. L. de Soldati, R. Navarro Viola and R.-H. Mejía.—p. 1016.

Exploration of Heart and Vessels by Mediastinal Pneumostratigraphy.—The roentgenograms ordinarily obtained after a pneumomediastinum are complex and hard to read, but when the pneumomediastinum is combined with stratigraphy, the various images are related to their proper planes and identification of the structures outlined by the air is facilitated. Pneumostratigraphy is entirely new and quite different in principle from endovascular, endotracheal, or esophageal opacification. Organs previously indistinguishable in the dark shadows of the mediastinum are separated by the currents of air, which thus define their outlines and demonstrate their relationships. The upper and lower thirds of the esophagus, the thymic cavity with the vestigial thymus, the circumference of the ventricles and the right and left auricles, the inferior pulmonary veins, the venae cavae and sometimes the large azygos, the arches and trunks of the aorta and the pulmonary arteries, the carotid and subclavian trunks, the tracheo-bronchial tree, and other structures become plainly visible, and changes in their volume and caliber can be directly appraised. Similarly, tumors and cardiovascular abnormalities of various kinds can be identified and traced to their origin. The technique by which the pneumomediastinum is produced is simple. The injection is made by the retroperitoneal, precoccygeal route, with the patient in the knee-chest position; the syringe should be worked by hand, introducing the air very slowly under low pressure. From 1,200 to 2,500 cc. may be used, and the injection should take at least 20 minutes; otherwise, the air may be diverted when it reaches the diaphragm and so fail to enter the thorax. The films should be taken on the second day, by which time the diffusion is most complete. On the third or fourth day, resorption will have taken place and the organs will have recovered their natural contiguity. The procedure is contraindicated in patients with asystole, cyanosis, or mediastinal masses producing vascular compression; the knee-chest position in itself is dangerous for them.

British Journal of Ophthalmology, London

36:657-720 (Dec.) 1952

Proliferation of Limbal Melanoblasts Into the Cornea in Response to Corneal Lesion: Experimental Study. I. C. Michaelson.—p. 657.
Stimulus to Convergence in Normal and Asthenopic Subjects. H. Asher. —p. 666.
Effect of Accommodation on Retinal Image. J. I. Pascal.—p. 676.
Chloramphenicol Applied in Calcium Alginate Caps for Control of Experimental Corneal Infection with Ps. Pyocyanea. M. Klein and E. G. Millwood.—p. 679.
Influence of Hypotension on Intracapsular Cataract Operation. K. R. Hill and G. P. Goodwin.—p. 683.
Reading Types. F. W. Law.—p. 689.

Día Médico, Buenos Aires

25:21-40 (Jan. 12) 1953. **Partial Index**

Clinical Problem of Hypertrichosis in Women. D. Z. Rocca.—p. 21.
*Progress in Diagnosis of Acute and Chronic Brucellosis. E. Criscuolo and F. Ramacciotti.—p. 24.
Acute Volvulus of Sigmoid Colon. O. S. Allende and A. Lemberg.—p. 33.

Diagnosis of Acute or Chronic Brucellosis.—The authors emphasize the advantages of culturing the blood of patients with acute or chronic brucellosis in the chick embryo. Brucella organisms can be isolated from the blood by this technique more rapidly and in a higher percentage of cases than by other methods. In the rare cases in which the results are negative in the egg, Brucella can be identified in cultures prepared with the tissues of the embryo. With this technique, which is described in detail, the authors were able to culture Brucella from the blood of all of 10 patients with brucellosis, whereas positive results were obtained in only six of these cases when other techniques were used. In a group of 19 patients, Brucella melitensis and Brucella abortus were identified in 3.9 days by the chick embryo technique and in 15.1 days by the liver-agar technique. In eight patients with acute brucellosis, Brucella was rapidly identified by the chick embryo technique after the first and only inoculation, whereas the cultures in liver-agar, as observed for 50 days with repeated inoculation every 5 days, gave negative results. In seven patients with acute brucellosis the blood cultures gave negative results with both techniques. In all of these cases positive results for Brucella were obtained from the cultures of tissues of the embryo. The chick embryo blood cultures gave positive results in 9 out of 12 cases of chronic brucellosis, in all of which the liver-agar technique gave negative results. The results of Huddleson's test for Brucella were negative in 5 out of 11 cases of chronic brucellosis and doubtful in six cases. The authors conclude that the technique of blood culture in the chick embryo is reliable and gives prompt results. This technique is the equivalent of guinea pig inoculation, but it does not have the danger for the researchers that inoculation in living animals has.

Lancet, London

1:1-52 (Jan. 3) 1953

Intracranial Hypotension. F. Page.—p. 1.
*Recognition of Primary Tuberculous Infection of Skin and Mucosae. F. J. W. Miller.—p. 5.
Augmented Respiration: Studies in Atelectasis Neonatorum. I. Donald and J. Lord.—p. 9.
Ankle Blow-Out Syndrome: New Approach to Varicose Ulcer Problem. F. B. Cockett and D. E. E. Jones.—p. 17.
Ligation of Popliteal Vein for Gravitational Syndrome. H. D. Moore. —p. 23.
Melorheostosis. R. A. Trevethick.—p. 25.
Necrotic Jejunitis with Perforation. J. P. Herdman.—p. 26.
*Suppurative Arthritis in the Aged. R. D. Blachford.—p. 26.

Primary Tuberculous Infection of Skin and Mucous Membranes.—When Ghon in 1912 described the anatomical and pathological characteristics of the primary tuberculous infection in childhood, he recognized that the primary focus with enlargement of regional lymph nodes could be in the skin or on any mucosa as well as in the lungs or abdomen. Most reports that have appeared since then seem to imply that primary infection in sites other than lung and abdomen is uncommon. Miller, however, in five years, has seen more than 30 cases in which the primary lesion of tuberculosis developed in visible sites on the skin and mucous membranes. He presents observations on 28 of these cases. This number does not include nine other cases in which studies have been less detailed. In 22 of the 28 cases the tuberculous nature of the lesion was definitely proved, and in the 6 others additional factors supporting the diagnosis of tuberculosis have been the observation of a change in the tuberculin reaction; the appearance of erythema nodosum at the expected time; and calcification in the regional lymph nodes (this sign has appeared in every case). The primary tuberculous infection was in the skin in 20 cases, in the conjunctiva in 5 cases, and in the mouth in 3 cases. A history of trauma was present in 10 cases of skin infection and in 2 cases in the mouth. In 11 cases of skin infection there was a history of contact; in only 3 cases was there a history of both trauma and contact. The eye lesion is usually under an edematous upper lid. The regional lymph nodes in all the cases softened to form abscesses. The author feels that this form of primary tuberculous infection must be commoner than has been hitherto appreciated and must often go unrecognized.

Suppurative Arthritis in the Aged.—Within a comparatively short time Blachford observed three elderly patients in whom the development of pain and uselessness of an arm led to the diagnosis of a "stroke," and in each the shoulder joint was eventually found to be full of pus. In one case an infected toe seemed to be the source of the infection; in another case bronchitis may have been the primary lesion; and in the remaining case there were two possible sources, the teeth and the lungs. The author does not suggest that joint suppuration is a common cause of uselessness of the arm, but such suppuration can occur in aged persons. When a swollen painful joint occurs in elderly persons, however, the presence of pus should be considered.

Minerva Ginecologica, Turin

4:543-622 (Nov. 15) 1952. **Partial Index**

Vitamin B_{12} in Medical Therapy of Toxemia of Pregnancy and Eclampsia. E. Maurizio.—p. 543.
Transverse Section of Recti Abdominis at Pubic Insertion as a Useful Technique in Gynecological Laparotomy. P. Quaini.—p. 545.
New Study to Prove Presence of Chorionic Tissue. G. Ferraris and G. Massone.—p. 553.
*Curare in Obstetrics. A. Massano.—p. 589.

Curare in Delivery.—Massano reviews the literature on the use of curare in gynecology and reports his results in 100 normal women to whom this drug was given during delivery. The intramuscular route, which is preferred, was used for 85% of the patients. The dosages for intramuscular administration were 15 to 35 units of the drug sometimes divided in three injections given at 15 to 30 minute intervals. By other routes the drug was given intravenously in a maximum dose of 20 units, also divided in three injections 10 to 20 minutes apart. It was always administered when the cervix uteri was entirely dilated and at the beginning of the expulsion period, since curare is effective only at this stage of delivery. In fact, it exerts its action on the muscles of the pelvis and mainly on the muscular diaphragm of the perineum by decreasing the tonus of the muscular fascia. This facilitates the progression of the fetus, diminishes the danger of trauma and lesions to the soft parts, and lessens the need for instrumental intervention. Thirty-five patients were primigravida, and there were 94 vertex and 6 breech presentations. Delivery occurred in an average of 20 minutes in 98% of the patients; the uterine contractions, although painful, maintained a regular rhythm, and the decreased muscular resistance of the perineum gave the patient a feeling of less effort and made her more cooperative in the expulsion of the fetus. Spontaneous vaginoperineal lacerations (never of third degree) occurred in 10 patients; episiotomy was needed in 8 multigravidas and 2 primigravidas; forceps had to be used in 4 patients, and the placenta had to be extracted manually in one patient. There were no postpartum hemorrhages or other complications, and the puerperium was normal. The fetus was not harmed by the drug, which does not pass through the placental barrier.

BOOK REVIEWS

Principles & Practice of Aviation Medicine. By Harry G. Armstrong, M.D., F.A.C.P., Surgeon General, United States Air Force. Third edition. Cloth. $7.50. Pp. 476, with 97 illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2, 1952.

With the constant increase in popularity of aviation as manifested by the growing number of passenger miles flown by commercial airlines, this book, covering all phases of aviation medicine, takes on greater importance. It serves as a practical guide for physicians engaged in civilian as well as military practice. Physicians engaged in private practice must have a knowledge of aviation medicine because many patients today are eager to travel by air. Those engaged in military practice, irrespective of the branch of service, will find this book of value if for no other reason than to acquaint them with the principles of aviation medicine as they apply to the transportation of patients by air. The opening chapters present an interesting account of man's early experiences with the physiological variable aloft; experiences dating back to 1783 when the first balloon flight was made. Physicians were attracted early to this "novelty" of ascent. Dr. John Jeffries, in 1784, made several balloon flights to observe and study the atmosphere. Several chapters are devoted to pilot selection, with special reference to physical examination and psychological evaluation. The variables of the atmosphere and the upper atmosphere are elucidated both by the text and by charts and graphs. Oxygen requirements and altitude, motion, and decompression sickness are discussed in relation to variations in the atmosphere. The difference in commercial and military aviation from the standpoint of altitude, speed, and acceleration and rates of descent and ascent are pointed out and must be kept in mind when considering the exposures of passengers and crew. With the development of pressurized cabin aircraft, which provide airplane occupants with protection against decreased atmospheric pressure, there has been a corresponding decrease in discomforts. Pain and trauma to the tympanic membrane and accessory nasal sinuses, distention and pain in the gastrointestinal tract, the occurrence of decompression sickness, the necessity of using oxygen at moderate altitudes, and the very definite limitation to ascent, even when using oxygen, may be eliminated by maintaining essentially normal pressure in crew and passenger compartments. The index is comprehensive. The illustrations consist primarily of charts and graphs that aid visual explanation of the effects of the many physiological variables covered by this book. This volume can be recommended to all those interested in keeping up-to-date in this field.

The Permeability of Natural Membranes. By Hugh Davson, D.Sc., and J. F. Danielli, D.Sc., Ph.D., A.R.I.C., Professor of Zoology, King's College, London. With foreword by E. Newton Harvey, Professor of Physiology in Princeton University, Princeton, N. J. Second edition. Cloth. $6. Pp. 365, with 73 illustrations. Cambridge University Press, 32 E. 57th St., New York 22; Bentley House, 200 Euston Rd., London, N.W.1., 1952.

This is essentially a reprint of the first edition published in 1943 and out of print for many years. Although there are a few comments and recent references appended to each chapter, the present edition must be considered a stop gap, fulfilling the need of research workers studying permeability for a comprehensive and authoritative summary of facts and interpretations that must now be regarded as classic. Although the value of this work is limited, the authors give an exceptionally well-organized review of the significance of permeability studies, permeability to gases, water, electrolytes, proteins, and large lipoid molecules, and the effect of narcotics and temperature. There is a separate chapter on the kidney. The book is printed by offset-lithograph and contains over 1,000 references.

The reviews here published have been prepared by competent authorities and do not represent the opinions of any official bodies unless specifically stated.

Introduction to Physiological Optics. By Armin von Tschermak-Seysenegg. Translated by Paul Boeder, Ph.D., Director, Bureau of Visual Science, American Optical Company, Boston. Translation sponsored by American Committee on Optics and Visual Physiology, of Section on Ophthalmology, American Medical Association; American Ophthalmological Society; American Academy of Ophthalmology and Otolaryngology. Cloth. $10.50. Pp. 299, with 111 illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1952.

The author of this book, which appeared not long ago in a second German edition, has been recognized for some decades as an outstanding investigator and authority on various phases of physiologic optics. The American Committee on Optics and Visual Physiology, made up of representatives from all the national ophthalmologic societies and sections in the U. S. and under the chairmanship of the late Walter B. Lancaster, has sponsored the translation of this treatise into English. Paul Boeder, the translator, has done an excellent job of expressing the German phraseology of a most complex subject in smooth and readable English. There is no doubt that this book fills a needed place in the literature of ophthalmology and that it offers most stimulating reading to the student of vision. The ophthalmologist who is looking for practical information for daily clinical use is apt to be disappointed, since this work is concerned more with theory than practice, and has more appeal for intellectual and scientific aspects than for direct utilization in the office or clinic. Separate chapters deal with the optical image, light, color, and uniocular and binocular space senses, and the physiology of ocular movements. The author's approach throughout is unique with emphasis on exact subjectivism, a term he coined to denote his subjective approach to the sense of vision. The book is illustrated by classic and illustrative diagrams.

Bacterial and Mycotic Infections of Man. Edited by René J. Dubos, Ph.D. Aided by grant from National Foundation for Infantile Paralysis, Inc. Second edition. Cloth. $7.50. Pp. 886, with 98 illustrations. J. B. Lippincott Company, 227-231 S. Sixth St., Philadelphia 5; Aldine House, 10-13 Bedford St., London, W.C.2; 2083 Guy St., Montreal, 1952.

The second edition of this important book appears four years after the first edition. It is organized in much the same manner as the previous edition but has been extensively rewritten. There are numerous contributors, and each section is written by an expert in the particular field. New contributions include discussions of bacterial genetics and physiology by Dr. Jacques Monod, blood groups by Dr. Philip Levine, and chemotherapy by Dr. Walsh McDermott. The book still stresses problems concerning the host-parasite relationship in understanding infectious diseases. Publication of the book was again aided by a grant from the National Foundation for Infantile Paralysis. It can be highly recommended to clinicians and to all those interested in the problems of infectious diseases.

Progress in Neurology and Psychiatry: An Annual Review. Volume VII. Edited by E. A. Spiegel, M.D., Professor and Head of Department of Experimental Neurology, Temple University School of Medicine, Philadelphia. Cloth. $10. Pp. 604. Grune & Stratton, Inc., 381 Fourth Ave., New York 16, 1952.

Contributions by 75 outstanding men in neurology and psychiatry are grouped in four sections that cover basic sciences, neurology, neurosurgery, and psychiatry. About one-third of the book is allotted to clinical neurology; one-third to clinical psychiatry; one-fifth to one-sixth to basic sciences; and one-seventh to neurosurgery. The contributions are directed particularly to specialists in the respective disciplines, but the hope is expressed that other physicians desiring up-to-date information about recent developments in these fields may find the volume useful. Division of the material into four sections makes the volume useful as a quick reference to recent literature.

QUERIES AND MINOR NOTES

CARDIAC ARREST AND RESUSCITATION

To the Editor:—*There have been several articles on cardiac arrest and resuscitation by cardiac massage. I would like to know the accepted standard procedure to gain access to the heart as well as the best way to prevent ventricular fibrillation and pulmonary emphysema.* *M.D., Mexico.*

Answer.—Manual compression and release of the heart, usually called cardiac massage, is the one valuable method of resuscitation in cardiac arrest. It can be done best through a left anterolateral thoracotomy incision in the fourth, fifth, or sixth intercostal space. The incision should be boldly made through all layers and should be of generous length, sufficient to permit the operator to insert his right hand into the thoracic cavity. The hand should grasp the heart forcefully to empty the ventricles completely. The grasp is then released to allow the heart to fill. Alternate pressure and relaxation should be carried out at a rate of about once per second. If the heart fails to respond, the pericardium should be opened and the heart inspected for fibrillation.

The majority of cardiac arrests occur on the basis of standstill, which should respond to massage alone. Intravenous or intracardiac injection of epinephrine is likely to produce ventricular fibrillation. This should be used cautiously, after a heart has failed to respond to simple massage, if at all, and then only in very dilute solution (1:10,000) in small quantities (1 to 2 cc.). The value of intravenous administration of procaine or procaine amide to prevent fibrillation has not been proved, and these drugs may hinder the proper response of the heart to manual massage. If ventricular fibrillation is present, an attempt to defibrillate the ventricles by electric shock is justified but only after oxygenation of the myocardium has been effected by cardiac massage. Effective cardiac massage should produce an easily palpable peripheral pulse. The judicious use of calcium chloride by the intracardiac or intravenous route has been recommended, on good evidence, as a method of restoring the heart beat in the event of cardiac standstill; however, this drug, and all drugs, should be considered only in conjunction with cardiac massage. It is to be hoped that some simpler and more practicable method of resuscitation of the arrested heart may be available in the near future.

ECZEMA

To the Editor:—*A 1½-year-old boy has dry eczema of the whole body, severest on the legs, arms, and face. A rigid elimination diet has proved unsuccessful. Pruritus is controlled by continuous application of wet packs. What is your opinion on treatment of this condition?*

Edward O. Lukasek, M.D., Sparta, Wis.

Answer.—The description is so brief that it is difficult to express an opinion, but it would seem that this child probably has atopic eczema, and the present episode may be the first he may have in a life with eczema. Frequently, atopic eczema is manifested in children in various periods of life, such as in infancy, at ages 4 to 6 or 10 to 12, and at puberty. Elimination diets play a small role in therapy, although foods may be an irritating factor, as may wool and various other substances that come in contact with the skin. The difference between the atopic and the nonatopic forms is not entirely understood, so there is no specific treatment. The use of wet packs and mild ointments, such as 3% ichthammol and zinc oxide or 1% coal tar ointment, is usually of help. Restraint in scratching to minimize the amount of trauma is also of help.

The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically so stated in the reply. Anonymous communications and queries on postal cards cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.

RESIDUES OF VIRAL HEPATITIS

To the Editor:—*A year ago, a patient had infectious hepatitis and made a presumably normal recovery in three months. A recheck now of the serum bilirubin level shows a direct value of 0.56 mg. per 100 cc. and a total value of 1.08 mg. per 100 cc. The flocculation test result is 1+. What is the significance of these findings and especially of the high serum bilirubin level? Is there any test that could be done to determine the exact nature of the liver disease?*

M.D., Massachusetts.

Answer.—Among the known measurable residues of viral hepatitis are the following conditions, which may occur singly or in combination: (1) hyperbilirubinemia, usually in the range mentioned above; (2) minor degrees of sulfobromophthalein (bromsulfalein®) sodium retention; (3) urobilinogenuria; (4) positive thymol or cephalin-cholesterol flocculation test results; (5) elevation of serum gamma globulin level; or (6) increased excretion of type 1 coproporphyrin. The exact significance of these findings is not as yet clear; needle biopsy of the liver in the presence of such findings may show evidence of previous hepatitis or may show only normal liver cords; patients with positive thymol turbidity test results or with hyperbilirubinemia may, for example, have entirely negative biopsy results and may show no other functional abnormalities, months or years after the acute illness. Such evidence as is available would seem to indicate that there is little or no evidence of progressive liver damage in such patients; in fact, only a small fraction of the many patients with a history of hepatitis acquired during the war years now show any functional residue whatever. One may safely say that, if the patient mentioned is otherwise well and has no hepatomegaly or splenomegaly, there is little cause for concern. If other signs and symptoms exist or if hyperbilirubinemia increases, a liver biopsy may be in order. This should be preceded by a complete liver function study, including a prothrombin level determination.

TRICHOMONAS VAGINALIS

To the Editor:—*Does the use of tampons as menstrual flow absorbers have any relation to the incidence of Trichomonas vaginalis infection?* *Wirt A. Warren, M.D., Wichita, Kan.*

Answer.—No specific reports are known that would prove or disprove this contention. One can almost certainly infer that the wearing of this type of pad does not prevent Trichomonas infection. There is much debate but little proof as to the source of this type of infection. Many gynecologists are opposed to the use of this type of pad for the following reasons: the dry cotton may irritate the vaginal mucosa when dragged across it; it is felt that the tampon dams the menstrual flow; many times it is handled by unclean hands; injury may occur if it is improperly inserted; and the pads are often "lost" in the vagina, giving rise to a foul discharge. Other gynecologists apparently see no harm in their use.

RABIES IN VACCINATED DOG

To the Editor:—*In July, 1952, a dog was immunized against rabies. About one week ago he had what the owner thought was distemper. The dog was destroyed. The state laboratory reports that the Negri bodies were present in the dog's brain. Is it possible, after immunization, for rabies to develop in a dog?* *Fred Ben Quincy, M.D., Williamson, W. Va.*

Answer.—It definitely is possible for rabies to develop in an animal after it is vaccinated. Such cases are on record. Since the symptoms of canine distemper are variable, these two diseases could easily be confused; however, if the state laboratory found Negri bodies in the brain, this should be considered positive proof that the dog had rabies.